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July, 1990



Lower Klickitat River

Wild and Scenic River Management Plan
Draft Environmental Impact Statement

2 SEP 1990

 KICKITAT AND WHITE SALMON
Rivers Study Update



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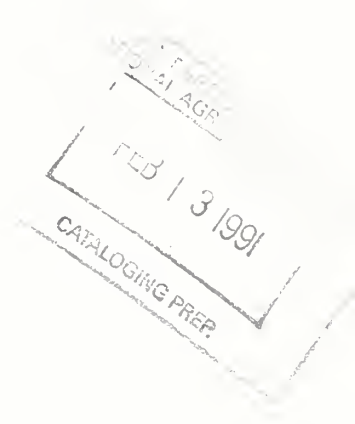
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AUM	Animæ
CFS	Cubic
CRGNSA	Colurr
DNR	Wash
DOE	Wash
DOT	Wash
EIS	Envirc
FEMA	Feder
FERC	Feder
FR	Feder
GPNF	Giffor
HPA	Hydra
IAC	Intera
KWA	Klickii
LEIS	Legis
MBF	Thousand board feet
MMBF	Million board feet
NEPA	National Environmental Policy Act
NPPC	Northwest Power Planning Council
PILT	Payment in lieu of taxes
PL	Public Law
RCW	Revised Code of Washington
RM	River mile
ROS	Recreation Opportunity Spectrum
ROW	Right-of-way
RVD	Recreation visitor-day
SCS	Soil Conservation Service
SDS	SDS Lumber Company
SEPA	Washington State Environmental Policy Act
SMP	Shorelines Master Plan
SOHA	Spotted Owl Habitat Area
T/F/W	Timber, Fish and Wildlife
T&E	Threatened and Endangered
USC	United States Code
USGS	United States Geological Survey
VQO	Visual quality objective
WDF	Washington Department of Fisheries
WDW	Washington Department of Wildlife
WNHP	Washington Natural Heritage Program

Lower Klickitat River

Wild and Scenic River Management Plan Draft Environmental Impact Statement



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**Comments Must Be
Received By:**

September 14, 1990

Abstract

The Forest Service, in compliance with the National Environmental Policy Act of 1969, is presenting four alternative ways of managing the 10.8-mile long portion of the Klickitat river from Wheeler Canyon near Pitt, Washington down to the river's confluence with the Columbia. The lower Klickitat was added to the National Wild and Scenic Rivers System in 1986, classified as a Recreation river segment.

The alternatives are:

1. Manage the river using the county's Shorelines Master Plan and zoning ordinance, the state's regulation of forest and streambank practices, and, for the lower 1.5 miles of river, the provisions of the Columbia River Gorge National Scenic Area Act.
2. Manage the river by increasing enforcement of existing laws, coordinating recreation and other management activities, and encouraging landowners to conserve resources on private lands. The river from the mouth upstream to Summit Creek would be added to the State Scenic Rivers Program.
3. Manage the river using increased county regulations supplemented by limited federal acquisition to maintain and in some cases enhance river resources and recreation opportunities. Management would be implemented by a committee composed of the Forest Service, Klickitat County, State of Washington, and Yakima Indian Nation.
4. Manage the river using a comprehensive program of federal acquisition to enhance river corridor resources and provide significantly more recreation opportunities, with management implemented by the U.S. Forest Service.

Alternative 1 is the "No Action" alternative describing the current management situation on the lower Klickitat.

This draft does not contain a Preferred Alternative; one will be identified in the final EIS.

Note to Reviewers

A precedent established in court obliges reviewers participating in the National Environmental Policy Act process to inform the agency of their positions in a meaningful way. To be most helpful, comments should address the adequacy of the draft EIS or the merits of the alternatives. Another legal precedent established that environmental objections that could have been raised at the draft stage may be waived if they are not raised until after completion of the final EIS.

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Photographs by:

Stewart Allen, Rex Crawford, Julie McQuary, Bob Ratcliffe, Gary Weiner,
Jacqueline Moreau (Cover, 2-1, 3-17)



Summary



The Klickitat drops into the gorge near RM 2.5; the fish ladder is on the right bank. The Columbia Gorge is barely visible at upper right.

The purpose of this document is to provide a basis for determining how the lower Klickitat River will be managed now that it is part of the National Wild and Scenic Rivers System.

Through the Columbia River Gorge National Scenic Area Act of 1986 (PL 99-663), Congress amended the Wild and Scenic Rivers Act (PL 90-542) to add the lower Klickitat (the 10.8-mile segment from Wheeler Canyon down to the confluence with the Columbia) to the National Wild and Scenic Rivers System and classify it as a Recreational river segment.

The Wild and Scenic Rivers Act requires that a management plan for the river corridor be developed. This is done by developing a reasonable range of alternative ways the river could be managed and evaluating the impacts of each alternative on the physical, biological, social, and economic features of the river corridor. Comments on the draft EIS received during the public comment period will be used to reassess the alternatives and develop a preferred alternative, for which a management plan would be developed and analyzed in the Final EIS. The management plan in the Final EIS will contain more-specific information on how, when, and by whom the actions called for under the preferred alternative would be implemented. Under any of the alternatives, Klickitat County, the Yakima Indian Nation, Washington State, and the U.S. Forest Service would play key roles in future management of the lower Klickitat.

The Forest Service has established boundaries for the management corridor; boundaries delineate the area to be influenced by the management plan. Boundary decisions were made on the basis of topography, location of outstanding resources, land ownership and use patterns, and public comments. The final boundaries included 4,830 acres; 250 of these were within the river channel, resulting in an average of 420 acres of land per river mile. The area between these boundaries is called the river corridor.

Because the river corridor contains only a negligible amount of federal land, an extensive public involvement program was developed to make sure that the management alternatives would consider the concerns of the people having a stake in how the river is managed. The public involvement program consisted of public meetings, a study Task Force, mailings to interested parties, and study newsletters, as well as ongoing informal meetings with any party requesting them.

The Task Force served as an integral part of the planning process, helping to identify issues, determine the significance of river resources, and develop and refine management alternatives. Individual Task Force members also served as conduits to interest groups wishing to be kept informed about the study.

The Task Force, which also considered management issues on the upper Klickitat River and the White Salmon River, was composed of 24 representatives from a wide range of interests concerned about the future of the river including local residents, Native Americans, federal and state agencies, local government, recreation and environmental organizations, and industry.

Key Study Issues

Seven key issues guided the development and evaluation of lower Klickitat River management alternatives:

1. Long-term protection or enhancement of important instream and shoreline resources, including free-flowing character, water quality and quantity, and fish habitat;
2. Long-term protection or enhancement of important upland resources, including scenery, wildlife habitat, and vegetation;
3. Protection of Native American treaty rights, traditional resource uses, and cultural sites;
4. Provision of public access and recreation opportunities;
5. Effects of resource protection actions on private property rights and the economic viability of existing and future resource uses, including timber harvest, agriculture, and grazing;

6. The level of county and state support for management and their willingness to be involved; and
7. Cost and barriers to implementation of required actions.

Management Alternatives

This draft EIS presents and analyzes four alternative ways of managing the lower Klickitat. Each is discussed briefly below.

Alternative 1. This is the “no-action” alternative required by NEPA. This alternative describes the existing situation—what mechanisms currently are available to protect important river resources. Adoption of this alternative would mean that the river management plan would not call for any new activities to be undertaken. The county, state, and federal governments and the Yakima Indian Nation would continue to exercise their existing authorities in the river corridor.

There are many existing laws, programs, and policies that apply to the river corridor; following are the ones most relevant to river management. The county Shorelines Master Plan (SMP) and zoning ordinance and the state Forest Practices Act and Hydraulic Projects Approval process provide protection for resources in the river corridor. Another such mechanism is the Columbia Basin System Planning effort, designed to double salmon and steelhead production in the Columbia River and its sub-basins, including the Klickitat. As part of this process, the State of Washington and the Confederated Tribes and Bands of the Yakima Indian Nation have jointly developed a plan for the Klickitat River sub-basin.

Since 1986, the lower 1.5 miles of river corridor have been within the boundaries of the Columbia River Gorge National Scenic Area (CRGNSA), and therefore subject to its provisions. Public access is currently provided by the state, county, and those private landowners who allow recreational use; recreation facilities are minimal along the lower Klickitat.

Alternative 2. This is one of two alternatives derived through Task Force discussions. All of the existing mechanisms protecting corridor resources would continue, but would be augmented by increased enforcement of existing regulations and better coordination of river management activities, including provision of recreational opportunities. In other words, current management would remain much the same, but would be intensified.

This alternative would add the entire river below Summit Creek to the Washington State Scenic Rivers System. The federal designation would remain but management would be coordinated by the Washington State Scenic Rivers Program. A Scenic River Council would be created, with representatives from county, state, and federal governments, as well as a Citizens Advisory Board.

The main additional resource protection mechanism would be increased recreation management and increased efforts to work with landowners to accomplish conservation goals. This would include encouraging voluntary resource protection efforts such as donating conservation easements, as well as providing information on tax incentives and possible sources for funding or technical assistance with forestry, agriculture, and other existing land use operations. Recreational uses and opportunities would remain similar to the way they are now, and recreational use would be monitored to help with future management decisions.

Because the Forest Service would still have the overall management responsibility to assure implementation of the management plan, the agency would maintain an oversight role to make sure river corridor resources were being adequately protected. If objectives were not being met, Forest Service funding and management tools would be available.

Alternative 3. This is the other alternative derived through Task Force discussions. Its goal is to maintain the river resources and character much as they are today, and its chief assumption is that additional actions are needed to accomplish this goal. The Forest Service, Klickitat County, Washington State, and the Yakima Indian Nation would form a Management Committee to implement the management plan. The Committee would work with recommendations from a citizen’s group that would be established.

The county would contribute toward additional resource protection by strengthening some existing zoning and shorelines regulations and adding some new ones; the federal government would supplement this by purchase of easements or lands to protect river corridor resources. Existing land uses could continue but new uses would be regulated to insure compatibility with the existing character and qualities of the river corridor. Recreational access would be improved and a limited number of facilities would be added to the existing recreation sites. Recreation use would be monitored comprehensively to learn more about use levels, the impacts of recreational use on the landscape and private property, and what types of opportunities people are looking for when they visit the lower Klickitat for recreation.

Because the Forest Service would still have the overall management responsibility to assure implementation of the management plan, the agency would maintain an oversight role to make sure river corridor resources were being adequately protected.

Alternative 4. This alternative was developed by Land and Water Associates, the consulting firm hired to conduct the planning process, to ensure that a wide range of alternatives was addressed as required by NEPA. The management goal would be not just to maintain, but to enhance river corridor values and provide for increased recreational use and development compatible with resource enhancement objectives. The Forest Service would have responsibility for

management, but would be closely guided by recommendations from a formal citizens' advisory committee that would operate under the provisions of the Federal Advisory Committee Act.

The county generally would not be asked to strengthen existing zoning or shorelines regulations. Federal purchase of land or easements would be expanded; this alternative relies on compensation, not zoning mechanisms, to meet its resource enhancement goals. Existing recreational sites would contain more facilities and more resource interpretation—including signs, roadside displays, and other forms of communication—to let people know more about the river corridor and its values.

Areas of Controversy

Although individuals have diverse viewpoints on many aspects of future management of the lower Klickitat, several primary areas of controversy exist:

1. The adequacy of existing county, state, and federal mechanisms to accomplish resource protection, and the willingness and ability of the parties involved to undertake and pay for the administrative duties that would come with river management;
2. The appropriate role of the Forest Service in managing a river corridor containing no National Forest land, including the role of acquisition, especially acquisition through condemnation, as a means to protect river values.
3. The trade-offs or balance between increased resource protection and private property rights, especially given other laws (such as the CRGNSA Act) that affect private lands in the region;
4. The appropriate amount of money to spend on river corridor management.

Issues To Be Resolved

Two important aspects of the EIS process remain to be resolved: recommendation of a preferred alternative; and coordination with management of the upper Klickitat River.

Recommendation of a preferred alternative. This draft EIS does not contain a preferred alternative. The final EIS submitted to the Regional Forester will contain a preferred alternative, which could be any of the four alternatives or a combination of them, perhaps with some new characteristics. The preferred alternative will be selected by the Regional Forester after the study Task Force meets following the public comment period and attempts to reach consensus. The process used to develop the preferred alternative, which will be accompanied by a management plan, will be fully disclosed in the final EIS.

Coordination with other river plans.

Regardless of which alternative is chosen for management of the lower Klickitat, management would be coordinated with management of the upper Klickitat (from Summit Creek down to the mouth of the Little Klickitat), currently being studied for possible Wild and Scenic designation. Decisions about the lower or upper river do not mandate any particular course of action on the other segment, but it makes sense for both segments to be managed in a way that facilitates coordination. One alternative, #2, does address management of both segments (and the stretch in between). Coordination will continue to occur with management of lower 1.5 miles of the Wild and Scenic corridor, which also lies within the boundaries of the Columbia River Gorge National Scenic Area. A management plan for the CRGNSA has not been completed.

Organization of This Document

Chapter 1 provides background on the purpose of this EIS, the study process used to produce the draft EIS (including the public involvement program), the Wild and Scenic Rivers Act, the boundary delineation process, and outstanding resource values in the river corridor.

Chapter 2 discusses the key study issues that formed the basis for developing alternatives, and then some alternatives that surfaced during the study process but were not considered in detail. The final section describes in detail the four draft management alternatives that were carried forth and are being evaluated in the draft EIS.

Chapter 3 describes the affected environment—the physical, biological, social, and economic resources of the lower Klickitat River corridor.

Chapter 4 assesses the impacts of each alternative on the resources described in Chapter 3.

References cited and other documents used to prepare this document are provided in a bibliography. Also provided is the list of people who prepared the draft EIS and the list of individuals, agencies, groups, and Tribes to whom a copy of the EIS was mailed.

Impacts of Alternatives on Key Study Issues

The following matrix compares the impacts of the alternatives on the seven key study issues.

Impacts of the Alternatives on Key Study Issues

Key Issues:	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Protection of Instream Resources	<p>Free-flowing Character: Wild and Scenic Rivers Act prohibits federal involvement in dams; other federal projects prohibited if they directly and adversely affect river values.</p>	<p>Free-flowing Character: Same as Alt. 1 except state-level dam protection would be added for the entire river between Summit Creek and the mouth.</p>	<p>Free-flowing Character: Same as Alt. 1.</p>	<p>Free-flowing Character: Same as Alt. 1.</p>
	<p>Water Quality and Quantity: Possible increases in sedimentation from construction, logging and other activities.</p>	<p>Water Quality and Quantity: Same as Alt. 1 except voluntary efforts could result in slightly less erosion and sedimentation.</p>	<p>Water Quality and Quantity: Existing conditions would be maintained or enhanced through controls on construction and logging.</p>	<p>Water Quality and Quantity: Same as Alt. 3.</p>
	<p>Fish: Northwest Power Planning Council System Plan will enhance anadromous fishery, including a new hatchery; anticipated corridor activities would have little effect on fish habitat.</p>	<p>Fish: Same as Alt. 1, except fish would benefit from reduced risk of sedimentation</p>	<p>Fish: Same as Alt. 2.</p>	<p>Fish: Same as Alt. 2.</p>

Key Issues: Protection of Upland Resources	Alternative 1	Alternative 2	Alternative 3	Alternative 4
	<p>Scenery: Partially protected by steep terrain, county zoning, and some public land ownership. Potential residential development (and, to a lesser extent, logging) could change the character of the corridor. CRGNSA proposed zoning protects visual quality in the lower 1.5 miles (same for all Alts.)</p> <p>Vegetation and Wildlife: Potential for increased impacts from residential construction, grazing and logging. Increased recreation use could disrupt wildlife.</p>	<p>Scenery: Successful voluntary programs would reduce visual impacts from construction and logging; local support could extend this protection to rest of watershed. Aesthetic improvements could occur and viewing opportunities may be improved. The visual quality objective of partial retention may not be met, meaning that new development may not blend in with the existing landscape.</p> <p>Vegetation and Wildlife: Successful voluntary programs could reduce impacts of construction, grazing and logging, and maintain oak stands. Increased recreation management actions would mitigate effects of increased recreational use.</p>	<p>Scenery: Visual quality and the character of the river corridor would be maintained. Aesthetic improvements would occur and viewing opportunities would be improved.</p> <p>Vegetation and Wildlife: The most ecologically significant oak stands would be preserved by purchasing 200 acres; county implementation of an oak conservation plan would maintain other significant stands. Purchase of up to 50 acres of lands in fee title would preserve sensitive plant species. Expansion of the river buffer would increase streamside habitat available for wildlife. County requirements for vegetative retention would reduce potential impacts of residential construction. Increased recreation management actions would mitigate effects of increased recreational use.</p>	<p>Scenery: Visual quality and the natural character of the river corridor would be enhanced. Additional aesthetic improvements would occur and viewing opportunities would be greatly improved.</p> <p>Vegetation and Wildlife: Similar to Alt. 3 except potential impacts would be further reduced by purchase of 400 acres of oak and up to 100 acres would be of sensitive plant species. Expansion of the river buffer would increase streamside habitat available for wildlife. County requirements for vegetative retention would reduce potential impacts of residential construction. Increased recreation management actions would mitigate effects of increased recreational use.</p>

Key Issues:	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Native American Concerns	<p>Dip-net Fishing Site: Legal right to access for fishing and other traditional uses. Safety of dip-net fishermen is a concern and numerous drownings have occurred</p> <p>Archaeological Resources: State law protects burial sites; archaeological sites may be inadvertently affected by development.</p> <p>Management Role: Existing role in management of fish and wildlife resources.</p>	<p>Dip-net Fishing Site: Legal rights to access as in Alt. 1. Implementation of site plan would protect site over the long term. A program to decrease accidents and drownings of dip-net fishermen would be implemented. Boating prohibited in the gorge to avoid impacts to dip-net fishing.</p> <p>Archaeological Resources: Same as Alt. 1, except recreation sites would be surveyed prior to improvement.</p> <p>Management Role: Same as Alt. 1 plus Yakima Indian Nation would participate in State Scenic River management team.</p>	<p>Dip-net Fishing Site: Legal rights to access as in Alt. 1. Implementation of site plan would protect site over the long term. A program to decrease accidents and drownings of dip-net fishermen would be implemented, and technical assistance and funding provided to the Native American search-and-rescue team. Boating prohibited in the gorge to avoid impacts to dip-net fishing. Public interpretation would minimize impacts to dip-net fishing and has the potential to reduce impacts from current levels.</p> <p>Archaeological Resources: Inventory and subsequent actions would protect key sites.</p> <p>Management Role: Same as Alt. 1 plus Yakima Indian Nation would serve as partner on Wild and Scenic River Management Committee.</p>	<p>Dip-net Fishing Site: Access, site plan, and safety measures are same as under Alt. 3. Boating through the gorge would be allowed only by permit, coordinated with the Yakima Indian Nation to avoid impacts to dip-net fishing.</p> <p>Archaeological Resources: Same as Alt. 3.</p> <p>Management Role: Yakima Indian Nation would serve on Advisory Committee rather than on Management Committee.</p>

Key Issues:	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Provision of Recreation and Public Access	<p>Recreation use levels: Increased use levels due to greater recreation visitation in the Columbia Gorge, possible restrictions on nearby rivers, and designation is likely to result in environmental damage to limited recreation sites, crowding, and conflicts among recreationists. Increased incidents of trespass, vandalism, wildfire and other problems for landowners may occur.</p> <p>Access: Long-term access to several traditional river access points on private lands is not guaranteed.</p> <p>Management and Monitoring: Existing recreation opportunities could be degraded over time by increased use, corridor development, and loss of access. Management is reactive, with no coordination among agencies or an agreed-on river management plan. One of the river's most outstanding features, the dip-net fishery, is not interpreted for the public. No monitoring program means that use trends and patterns can not be quantitatively measured and documented.</p>	<p>Recreation use levels: Use levels may increase slightly higher than under Alt. 1 as a combined result of additional state designation and limited facility improvements. The use increase anticipated due to these factors is considered slight when added to the more significant variables listed under Alt. 1.</p> <p>Access: Public use of currently-used river access sites on private lands could be provided through agreements, easements, or acquisition.</p> <p>Management and Monitoring: Existing opportunities would be maintained to the extent funding and technical assistance were available. A monitoring program would help to analyze use levels and patterns, and detect landscape damage, crowding, or use conflicts before they become substantial. Coordinated recreation planning and management could reduce physical and social impacts by anticipating problems, planning for and directing recreation use, and providing appropriate levels of information, facilities, and access.</p>	<p>Recreation use levels: Use would probably increase similarly to levels under Alt.2 because of additional facilities and access improvements at least one site (Three Pines, a privately-owned site at RM 5.5).</p> <p>Access: Purchase of easements or lands for access at the Three pines site would guarantee access to this and other important locations.</p> <p>Management and Monitoring: Existing opportunities would be guaranteed to continue over the long term. A comprehensive monitoring program and coordinated management effort would prevent unacceptable levels of impacts to the landscape and address crowding and conflicts before problems arise. A full-time seasonal river ranger would provide many benefits for on the ground monitoring, management and enforcement.</p>	<p>Recreation Use levels: Use levels would be anticipated to increase moderately over those in Alt. 1 due to substantial improvements to existing recreation sites, expansion of recreational access, and increased visitor information and signing.</p> <p>Access: Alt. 3 plus overnight camping facilities at the WDW Dillacort recreation site (RM 5.1) would be expanded and improved. More roadside parking and pull-offs would be provided, trails to or along the river could be developed in the future.</p> <p>Management and Monitoring: Existing opportunities would be guaranteed to continue over the long term. These and additional opportunities would be enhanced by greater corridor protection, interpretation, and access. People would have the opportunity to learn more about the dip-net fishery. Other impacts similar to those under Alt. 3.</p>

Key Issues:	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Effects on Private Property and the Local Economy	<p>Private Property: 67% of the corridor (3,275 acres) is privately owned. Proposed Shorelines Master Plan revision and CRGNSA zoning would increase regulations. A theoretical maximum of about 155 building sites are available, but about 85 sites are not likely to be built on because they are on steep slopes or in the floodplain.</p> <p>Local Economy: Grazing, home construction, tourism and logging in the lower Klickitat corridor make minor contributions to the local economy. There are about 2,500 acres (50 mmhf) of harvestable timber and 1,500 AUM grazing. Maximum possible development of houses in the corridor could increase county property tax receipts by \$131,850 (offset by the need for increased services) and increase corridor population by 391 people.</p>	<p>Private Property: Similar to Alt. 1; management would emphasize voluntary resource protection measures, not additional regulation of private lands, resulting in little or no impacts to peoples' ability to control their land. Landowners who donated conservation easements could pay less in property taxes, and resale value could be affected.</p> <p>Local Economy: Similar to Alt. 1 with slight increases in tourism revenues. Any decreases in timber harvest or agriculture would be voluntary.</p>	<p>Private Property: The opportunity to build on about 90 sites would be foreclosed to meet river management objectives (landowners would be compensated for eight sites; 60 excessively steep sites and 25 in the floodplain, locations not likely to be built on, would be regulated by zoning). Timber harvest would be regulated as described below and under Upland Resources. Strengthened zoning and SMP provisions, agreements, and easements would regulate visibility of houses and trailers. Landowners would be compensated for easements or land purchased but not for activities foregone due to increased county regulation. Payments to landowners would total an estimated \$744,250 for easements and land.</p> <p>Local Economy: Easements regulating timber harvest to meet visual quality objectives would reduce the amount of harvestable timber by 2 mmhf (out of 50 mmhf in corridor); no reduction in grazing. Slight additional increases in tourism revenues. Maximum potential increase in county property tax receipts of \$48,350 (offset by need for increased services) and potential population increase of 143 people.</p>	<p>Private Property: The opportunity to build on about 110 sites would be foreclosed to meet river management objectives; landowners would be compensated for 50 of these parcels (60 are excessively steep and so would be restricted by strengthened zoning). Timber harvest would be regulated as described below and under Upland Resources. Screening and placement of new houses and trailers would be regulated and compensated for by easement acquisition (or voluntary agreements). Payments to landowners would total an estimated \$2,124,000 for easements and land.</p> <p>Local Economy: Purchase of timber to conserve resource values would reduce the amount available for harvest by 4 mmhf (out of 50 mmhf in corridor). No reduction in grazing. Moderate additional increases in tourism revenues. Maximum potential increase in county property tax receipts of \$30,760 (offset by need for increased services) and potential population increase of 91 people.</p>

Key Issues:	Alternative 1	Alternative 2	Alternative 3	Alternative 4
County and State Support	<p>County: Little change from routine but added public controversy and administrative pressure due to having a Wild and Scenic river in the county.</p> <p>State: Little change from routine in administration of state regulations or in the management of state lands, which comprise 22% of the river corridor; Wild and Scenic designation is compatible with state salmon restoration efforts.</p>	<p>County: County responsibilities would increase, mitigated by state provision of staff and state and federal funding for management activities. County would have an active role by serving on the Scenic River Council.</p> <p>State: The river would be added to the state Scenic River system, increasing costs and administrative responsibilities. Increased state role in river conservation as opposed to Alt. 1. Benefits of this alternative would apply to all portions of river between the mouth and Summit Creek.</p>	<p>County: This alternative would call for the county to strengthen existing zoning and shorelines regulations, increasing its costs and management responsibilities considerably. The changes called for would be controversial. These impacts would be partially mitigated by federal funding to pay for the increased duties and the availability of Forest Service river rangers to help implement the plan. The county would have a critical role in river management, serving as a partner on the Management Committee.</p> <p>State: The state would realize the benefits of increased resource protection but without the greatly expanded duties or lead management role called for under Alt. 2. State agencies would be asked to perform many of the same duties as under Alt. 2, partially mitigated by federal funding and staff assistance. The State would serve on as a partner on the Management Committee.</p>	<p>County: This alternative's principal way of meeting resource protection objectives is federal purchase of easements and/or lands in fee title at fair market value. This is compatible with the county's position that people should be compensated if increased resource protection efforts reduce peoples' private property rights. The Forest Service would have the lead management role; the county's existing management responsibilities would continue. The county would serve on the formal Citizen's Advisory Committee, rather being a partner in implementation of the management plan.</p> <p>State: Similar to Alt. 3 but the state would serve on the formal Citizen's Advisory Committee, rather being a partner in implementation of the management plan. The state's existing management responsibilities would continue, but would not be increased as much as under Alt. 2 or 3.</p>

Key Issues:	Alternative 1	Alternative 2	Alternative 3	Alternative 4
<p>Cost and Implementation</p>	<p>Cost: For the most part, the cost of existing management activities in the river corridor are funded out of general county and state budgets and so are difficult to estimate. Responsibilities would not increase significantly under this alternative.</p> <p>Implementation: It is unlikely that this could be chosen as a preferred alternative because it does not appear to insure adequate long-term protection of river corridor resources. This alternative may be more viable if some of the actions under other alternatives were added. At a minimum, a central coordinating mechanism would be needed.</p>	<p>Cost: One-time acquisition and facility improvement cost of \$331,000; annual operation cost of \$70,000.</p> <p>Implementation: State Scenic River designation would require an act of the state legislature. Legislation adding rivers to the Washington state system did not pass in the last session, pointing to the uncertainty associated with future state designation. Success in meeting some resource protection goals would depend on the success of efforts to encourage and assist landowners with voluntarily conservation of corridor resources. Success also would depend on the effectiveness of interagency cooperation and coordination. The state lead in management would be coupled with a monitoring program designed to measure progress toward achieving management goals. If a given action was not working, the Forest Service could use its funding and management authorities. If this were widely used, the resulting impacts may be similar to those described under Alt. 4.</p>	<p>Cost: One-time acquisition, survey, plan development, and facility improvement cost of \$1,234,250; annual operation cost of \$105,000.</p> <p>Implementation: The county would encounter opposition in its proposal to strengthen zoning and shorelines regulations. Even if new regulations were approved, new county commissioners could modify regulations through scheduled or unscheduled revisions. If a given action was not working, the Forest Service could use its funding and management authorities. If this were widely used, the resulting impacts may be similar to those described under Alt. 4.</p>	<p>Cost: One-time acquisition, survey, plan development, and facility improvement cost of \$2,649,000; annual operation cost of \$120,000.</p> <p>Implementation: Federal acquisition provisions would require congressional appropriations. Management would be simplified due to strong federal lead role. Advisory committee would provide opportunities for public input.</p>



CHAPTER 1

Purpose and Need for Action



Much of the lower Klickitat flows through a steep, dry canyon (view north from WDW access site near RM 5).

The purpose of this document is to provide a basis for comparing alternative management plans for the lower Klickitat River, recently added to the National Wild and Scenic Rivers System.

Through the Columbia River Gorge National Scenic Area Act of 1986 (PL 99-663; 16 USC 544), Congress amended the Wild and Scenic Rivers Act (PL 90-542, 16 USC 1274) to add the lower Klickitat (the 10.8-mile segment from Wheeler Canyon down to the confluence with the Columbia) to the National Wild and Scenic Rivers System as a Recreational river segment (see map 1-1). The Secretary of Agriculture, given responsibility for administering the river, delegated this duty to the Forest Service, which must prepare a management plan.

Congress also directed study of the upper Klickitat (the segment from Summit Creek down to the Little Klickitat) to see whether that segment should be added to the National Wild and Scenic Rivers system or managed some other way. The Forest Service has published a draft study report and legislative environmental impact statement (EIS) on designation of that segment; no decision has been made.¹

This chapter provides background on the management planning process. Section 1.1 describes the process being used to develop a management plan for the lower Klickitat. Section 1.2 reviews the purpose and goals of the Wild and Scenic Rivers Act. Section 1.3 describes the public involvement program that was an integral part of the study. Section 1.4 describes the methods used to identify outstanding resource values on the lower Klickitat and describes why it was classified as a Recreational river segment. Section 1.5 summarizes the methods and results of the process used by the Forest Service to identify river corridor management boundaries.

1. In the same Act, Congress designated the lower White Salmon (the segment from Northwestern Lake up to Gilmer Creek) as a Scenic River, and directed the Forest Service to prepare a management plan. It also directed the agency to study the upper White Salmon (the segment from Gilmer Creek up to the confluence with Trout Lake Creek) for possible designation. These processes are documented in separate environmental impact statements available from the Forest Service.

1.1 Management Planning Process

As specified in the Wild and Scenic Rivers Act and federal guidelines, the process of developing a management plan for designated rivers has several steps. Because the management plan is considered a major federal action affecting the environment, the procedures outlined in the National Environmental Policy Act (NEPA) and its set of federal guidelines also must be followed. Here are the main steps in the planning process and a brief discussion of each.

A. Develop preliminary boundaries. The Forest Service identified preliminary boundaries—the area to be influenced by the management plan—through a process discussed in Section 1.3.

B. Identify management plan issues and develop a public involvement program. Section 1.2 describes the public involvement program undertaken so far. The public comment period on this document, plus the public meeting to be held in Lyle, are important components of this program. Section 2.1 in Chapter 2 describes the key study issues identified.

C. Identify outstanding resources in the river corridor. Although the identification of important resources was a product of the issue identification step, an additional analysis was undertaken to identify what the Wild and Scenic Rivers Act refers to as “outstandingly remarkable” values; protection of these values is a main reason for adding the river to the National Wild and Scenic Rivers System. Because the lower Klickitat was added to the system without some of the studies that traditionally take place before designation, this step had not been conducted. It is described in Section 1.3.

D. Develop alternatives for river management. The NEPA process mandates that a range of reasonable alternatives for river corridor management must be developed and evaluated before any one management direction (called a preferred alternative) is selected and implemented. This draft EIS presents four possible management futures for the lower Klickitat. Chapter 2 presents the four alternatives and describes how they were developed.

E. Prepare a draft EIS. The first four steps are part of EIS preparation, but they must be compiled into a document along with several other key items. These include a discussion of the affected environment (the existing land uses and resources in the river corridor, described in Chapter 3), a thorough analysis of the impacts of each management alternative on the affected environment (provided in Chapter 4), and other information such as a summary, list of people who prepared the draft EIS, and list of people to whom the draft EIS initially was sent (although anyone can request a copy). The purpose of the draft EIS is to provide all of this

information so that agencies, Tribes, and anyone else concerned about the future of the river can make informed comments regarding their preferences.

F. Prepare a final EIS. This process also has several components. First, the comments received on the draft EIS will be compiled. Based on these comments and Task Force discussion (see Section 1.3), the Forest Service will select a preferred alternative. A management plan providing additional detail on how the preferred alternative will be implemented is then prepared. All of this information is contained in the final EIS. The final EIS is published and the management of the river begins, pending rulings on any administrative appeals received after the EIS is published.

1.2 Introduction to the Wild and Scenic Rivers Act

The Wild and Scenic Rivers Act was passed in 1968 to balance river development with river protection:

The Congress declares that the established national policy of dam and other construction...needs to be complemented by a policy that would preserve other selected rivers or sections thereof in their free-flowing condition to protect the water quality of such rivers and to fulfill other vital national conservation purposes.

To accomplish this goal, Congress created the National Wild and Scenic Rivers system:

It is hereby declared to be the policy of the United States that certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, shall be preserved in free-flowing condition, and...shall be protected for the benefit and enjoyment of present and future generations.

By the end of 1988, about 9,200 miles of rivers on 119 river segments had been added to the Wild and Scenic Rivers system (Coyle, 1988). Designation as a Wild and Scenic river does not mean that the river corridor, which generally includes the land within about 1/4 mile on either side of the river, is managed like a National Park or Wilderness Area. The management goal is to maintain the character of the river in its current state and protect or enhance specific resource

values. Existing resource uses may continue—including timber harvest, agriculture and grazing, residential occupancy, and recreation—and new uses generally are allowed as long as they do not adversely affect river corridor resources. Federal water projects, including dams, are specifically prohibited.

1.3 Public Involvement Program

Because the river corridor contains only a negligible amount of federal land, an extensive public involvement program was developed to make sure that the management plan would consider the concerns of the Yakima Indian Nation, Klickitat County, the State of Washington, landowners, local residents, and others having a stake in how the river is managed. The public involvement program consisted of public meetings, a study Task Force, mailings to interested parties, and study newsletters, as well as ongoing informal meetings with any party requesting them.

Public Meetings. The National Environmental Policy Act (PL 91-190) and accompanying federal guidelines and regulations (40 CFR Parts 1500-1508 as of July 1, 1986) specify the required procedures for preparing environmental impact statements. This includes holding scoping meetings early in the EIS process so citizens have the opportunity to express issues and concerns important to them. Public meetings were held in Lyle, Trout Lake, and White Salmon in October, 1987, to let people know about the studies scheduled for the Klickitat and White Salmon rivers.

A formal scoping meeting for the lower Klickitat, attended by about 20 people, took place in Lyle on April 19, 1989. An additional public meeting, attended by about 15 people, was held in Lyle on December 5, 1989, to obtain comments on the



The Task Force enjoys a lighter moment during one of its meetings.

preliminary list of alternatives. Both meetings were advertised in local and regional media. A public meeting will be held during the 45-day comment period on this document as described in the transmittal letter.

Task Force. To help ensure that diverse viewpoints were considered during each step of the study, a broad-based public Task Force was created (the same Task Force also worked with the studies being conducted on the upper Klickitat, lower White Salmon, and upper White Salmon).

The Task Force served as an integral part of the planning team,² helping to identify issues, determine the significance of river resources, develop and refine alternatives for designation and management, and keep their fellow interest group members informed about the study.


The Task Force was composed of 24 representatives (and their alternates) from a wide range of interests concerned about the future of the river: Yakima Indian Nation and River People, U.S.D.A. Forest Service (Mt. Adams Ranger District), Washington Department of Wildlife, Washington Department of Fisheries, Klickitat County, private river floaters and anglers, commercial outfitters, Pacific Power and Light company, Mt. Adams Orchards, Friends of the Columbia Gorge, SDS Lumber Company, Champion International, Friends of the White Salmon, Washington Environmental Council, upper White Salmon residents, farmers, and irrigators, lower White Salmon residents, upper Klickitat residents and ranchers, and lower Klickitat residents and ranchers.

The Task Force held its first meeting on March 16, 1989, and met monthly until June. During these sessions, all open to the public and advertised in the local media, the Task Force became familiar with the Wild and Scenic Rivers Act and developed a list of issues and concerns about future management of the rivers. The group then split into three working groups, one for the upper White Salmon, one for the lower White Salmon, and one for the Klickitat. Between June and November, 1989, these subgroups held meetings at least once a month—and usually more frequently. In all, the Task Force and its working groups met about 40 times in the last nine months—a tremendous commitment of time and energy on the part of the members.

Interested Parties. A list of about 75 people, agencies, and groups was compiled to make sure that other interests were kept informed of the study. Interested parties were mailed copies of all Task Force meeting minutes,

announcements of future Task Force meetings, and three newsletters. All parties on this list were mailed copies of this document.

November Newsletter



KLICKITAT AND WHITE SALMON
Rivers Study Update

November, 1989

This is one in a series of newsletters that are written periodically to let you know about progress on the Klickitat/White Salmon Rivers Study. This issue summarizes the river management goals developed by the project Task Force, describes where we are in the study and what happens next, and tells how you can get involved.

Where We Started...

In 1986, the Columbia River Gorge National Scenic Area Act added the lower Klickitat and lower White Salmon to the National Wild and Scenic Rivers System. The Act also said that the upper portions of both rivers should be studied to see if they should be added to the Wild and Scenic system or managed some other way.

The Act directed the Forest Service to prepare river management plans for the lower rivers and to prepare study reports for the upper rivers. The Forest Service hired Land and Water Associates, a natural resource consulting firm, to take the lead on the management plan for the lower Klickitat and to conduct studies of the upper segments of both rivers. These efforts have been combined with the development of a management plan for the lower White Salmon to create the Klickitat/White Salmon Rivers Study.

The study has two phases. Phase I, completed in September, was an inventory and evaluation of the scenic, recreational, geologic, fish and wildlife, historic, archaeological, and other values along the Klickitat and White Salmon rivers. We review the results of Phase I in this newsletter.

During phase II, to be completed by fall, 1990, alternative ways to conserve these values and manage other river related resources will be identified. The result will be formal recommendations, in the form of environmental impact statements (EIS), on how the rivers should be managed.

Recommendations for future management are being developed by a public Task Force. The Task Force is a group of people representing a wide range of interests that have a stake in future management of the Klickitat and White Salmon Rivers. Its goal is to reach consensus on the river management plans that will be forwarded to Congress, so the Task Force has a great deal of involvement in the outcome of the study.

The Task Force members have a difficult job—to represent their interests vigorously, while remaining willing to listen to the viewpoints of others and work toward achieving a consensus on river management. By consensus, we mean developing a management plan that achieves a reasonable balance among the various interests and their concerns.

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USDA Forest Service

Land and Water Associates

Newsletters. Between spring, 1989 and summer, 1990, three informational newsletters were prepared (several earlier mailings had informed people about the lower Klickitat planning process). The first, published in April, 1989 during the issue identification process, let people know about the study. The second, published in November, 1989 after the resource analysis, was designed to provide an update of study activities. The third, published in June 1990, announced the availability of the draft EIS for public review. All three newsletters contained information about not just the lower Klickitat, but about the planning processes on the upper Klickitat, upper White Salmon, and lower White Salmon. Collectively, these four planning efforts have been referred to as **The Klickitat/White Salmon Rivers Study**.

The newsletters were mailed to about 1,600 people, including all those owning land in the lower Klickitat river corridor (as well as landowners along the upper Klickitat and entire White Salmon rivers), the interested parties and Task Force members, and others who requested to be kept informed of study progress.

2. The planning team consisted of Land and Water Associates (the consulting firm hired to conduct all phases of the management planning process), the Task Force, and the Wild and Scenic Rivers Team located at the USDA Forest Service Columbia River Gorge National Scenic Area office, which reviewed work as it was conducted by the consultants.

1.4 Outstanding Resource Analysis and Classification

The lower Klickitat was added to the Wild and Scenic Rivers System in a way that differs from many situations; it was an “instant designation,” part of another piece of legislation (the Gorge Act). Often, rivers that have the potential to be designated go through a study process that is specified by the Wild and Scenic Rivers Act and federal guidelines (47 FR 39454 Tuesday, September 7, 1982). This process typically includes what is known as the eligibility study and classification analysis.

The purpose of the eligibility study is to determine if the river meets the minimum requirements for addition to the national system. In order to be eligible for addition to the system, a river segment must be free-flowing and possess one or more “outstandingly remarkable”³ values, such as scenic, recreational, geologic, fish, wildlife, historic, ecologic, or cultural resources. Eligible rivers are then classified as either potential “Wild,” “Scenic,” or “Recreational” river segments based on the level of development present in the river corridor.

The lower Klickitat was designated a Recreational river segment because it is readily accessible by road or railroad, has a fair amount of development along its shoreline, and has been channelized and rip-rapped in the past due to road and railroad construction. The term “Recreational” tends to be misleading because it has a common-sense connotation other than level and type of development; people often believe that recreational use is emphasized in management of “Recreational” rivers. In reality, management is designed to conserve the values identified and maintain or enhance the existing character of the river corridor, regardless of the classification.

Because the lower Klickitat was an instant designation river, the other main characteristic of the eligibility study—the analysis to identify “outstandingly remarkable” value—was not conducted before designation. However, it was still necessary to conduct an analysis to identify outstanding resources, because these (as well as other important resources in the corridor) must be adequately protected by the management plan.

Resource values on the lower Klickitat were studied in greater detail by comparing them to similar features on other rivers in the region. A set of criteria were developed for each resource feature to use in making the comparisons. For instance, the significance of the anadromous fishery on the Klickitat was assessed by comparing such factors as the size of runs, species and races present, habitat quality, and extent of natural reproduction. This allowed identification of resources on the upper Klickitat that really stood out. The full methodology and rationale are contained in “A Systematic Approach to Determining the Eligibility of Wild and Scenic River Candidates,” a report prepared by Land and Water Associates.

The region selected for comparative analyses was the Columbia River gorge area between the Cascade Mountains to the west and the Columbia Plateau to the east. This included all major tributaries to the Columbia River spanning the crest of the Cascades, from the confluence of the Umatilla River in eastern Oregon to the Sandy River near Portland.

The biological evaluation was conducted using existing state and federal government lists of “critical habitat” for threatened, endangered, or sensitive wildlife species. Cultural resources listed on state or federal historic registers or that are known to be unique were assumed to have at least regional significance. Adequate data did not exist for conducting a comprehensive regional comparison of rare plants or plant communities.

These analyses identified five outstanding resources on the lower Klickitat and its immediate area: the river’s hydrology; anadromous fish; resident fish; the Native American dip-net fishing sites; and the geology of the gorge between about RM 1.1 and RM 2.5. These and other resources in the river corridor are described in Chapter 3; outstanding resources are highlighted in separate boxes.

1.5 Boundary Process

The Wild and Scenic Rivers Act (Section 3(b)) specifies that after a river is designated, the agency charged with its administration must establish detailed boundaries delineating the land area within the river corridor that will be managed under the Act. The Act specifies that the area within the corridor should not average more than 320 acres per mile on both sides of the river, placing the boundaries an average of 1/4 mile from the river on each bank.

Boundary decisions are made on the basis of topography, location of outstanding resources, land ownership and use patterns, and public comment. The Forest Service issued draft boundaries for the lower Klickitat in September, 1987, and held a public meeting in Lyle on October 7, 1987. The Forest Service mailed maps showing the draft boundaries and a questionnaire asking for comments to approximately 1,200 people in September, 1987. This mailout also contained information and solicited comment on the proposed boundaries for the lower White Salmon Wild and Scenic River.

Of the 100 people who provided comments, about two-thirds made specific suggestions about boundary changes on the two rivers. The vast majority of comments addressed the lower White Salmon boundaries. Regarding the Klickitat River, people recommended excluding the town of Lyle and including a gravel pit across the river from Lyle; one landowner requested to have more of his land included within the boundaries to avoid isolating a part of his property.

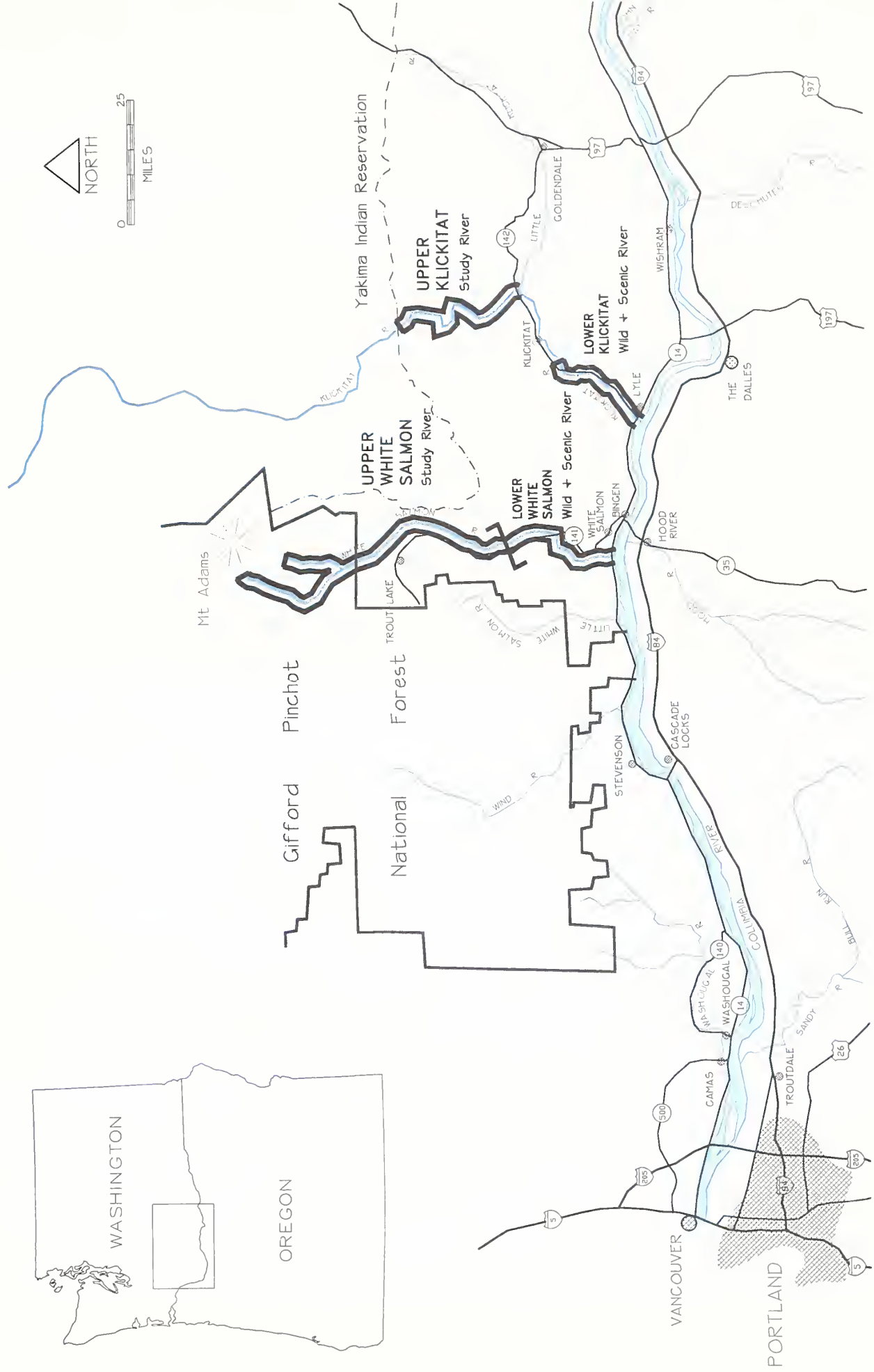
3. *Rather than use this legal term, we will refer to these resources as “Outstanding.”*

The Forest Service redrafted the boundaries, removing a portion of the acreage within Lyle and adding the landowner's acreage to the corridor. The gravel pit was not included because it is located within the Columbia River Gorge National Scenic Area boundary, which will address it in that management plan. In addition, about 60 acres were added along Silvas Creek, Knight Canyon, and Dillacort Canyon in response to fisheries concerns, and about 80 acres important to the viewshed were added in several locations on the east side of the river.

The final boundaries included 4,830 acres; 250 of these are within the river channel, resulting in an average of 420 acres per river mile. Another opportunity for public review was provided when the final boundaries were published as a Notice of Availability in the Federal Register on November 17, 1987. The boundaries were not appealed in the 45-day period following this announcement and Congress approved the final boundaries (recognizing that the acreage included was greater than that specified in the Act) in 1988.⁴

The boundaries are still subject to review during the management planning process and could be changed based on new information or analysis. However, as discussed below, the boundaries have not been an issue to date in the management plan study, so none of the alternatives in the draft EIS propose changes in the boundaries.

4. *In the rest of this document, the term "river corridor" will refer to the area within the designated boundaries.*





CHAPTER 2

Alternatives



The lower Klickitat gorge is one of the few remaining traditional dip-net fishing sites that Native Americans continue to use today.

This chapter presents and compares the four alternatives developed during the study process. Each alternative presents a different view of how the lower Klickitat River corridor should be managed in the future.

Before describing the alternatives, this chapter discusses the seven key issues that formed the basis for developing the alternatives (Section 2.1) and describes several alternatives considered during the study process and subsequently rejected (Section 2.2). Section 2.3 presents the alternatives considered in detail in narrative form to convey the essence of each. The accompanying matrix (Section 2.4) provides more detail on the actions to be taken under each alternative, in tabular form for easy comparison. Section 2.5 describes the monitoring strategy that would be undertaken to make sure that the management plan's objectives are being met.

2.1 Key Study Issues

Seven key issues guided the development and evaluation of lower Klickitat River management alternatives. Many of these were first brought up by members of the project Task Force in an issue identification session held in March, 1989. These were later elaborated on at additional Task Force meetings, public meetings and one-on-one meetings with interested parties.

Issue #1: Long-term protection or enhancement of important instream and shoreline resources, including free-flowing character, water quality and quantity, and fish habitat.

The lower Klickitat's hydrology, its gorge, and its anadromous and resident fish are outstanding resources. The abundant supply of clean water provides many other benefits, including recreation, wildlife, and consumptive uses.

Concern has been voiced regarding the adequacy of existing local, state, and federal mechanisms to provide long-term protection for instream and shoreline resources. While the river is now free-flowing and its water quality good, how will future pressures affect the river, and will existing mechanisms be capable of responding to these pressures? Dam protection is not an issue because the river has already been added to the federal Wild and Scenic Rivers System, preventing the federal government from licensing dams along the river segment.

An allied concern is the fate of the Klickitat's salmon and steelhead runs. Local people, be they ranchers, Native Americans, or sport anglers, look to the river's fish resources as a source of pride. They are concerned that fish populations

have been depleted and they want to return the fish runs to their former grandeur. Little if any concern has been raised that an enhanced anadromous fishery would conflict with other uses of the river corridor. Are proposed fishery measures adequate? Are there other actions that should be taken?

Issue #2: Long-term protection or enhancement of important upland resources, including scenery, wildlife habitat, and vegetation.

Upland resources are those located on land away from the shorelines but still located within the river corridor. The lower Klickitat river corridor contains many important upland values, including the corridor's natural character, scenery, and stands of Oregon white oak.

Many landowners, Native Americans, recreationists, and others care deeply about the river. One individual who owns land near one of the study rivers put it this way following one of the public meetings:

I like the river the way it is now. No dams, you can go down to the river and see wildlife and birds. I like it just like it is.

Some, however, are concerned that change is in the wind, and that natural values will be subject to increasing stress. A primary concern of many is the increasing demand for residential and recreational property. People question the ability of existing mechanisms to respond in a way that will ensure long-term protection for upland resources.

The future of the area's Oregon white oak is of particular concern to naturalists and wildlife enthusiasts. They see this resource as an important component of the region's vegetative diversity and fear that oak stands could be depleted through development or conversion to rangeland or harvestable softwoods. Preservation of scenic views is another concern, especially given the naturalness of the steep slopes that enclose the river.

Issue #3: Protection of Native American treaty rights, traditional resource uses, and cultural sites.

Congress recognized the importance of the Klickitat River to Native Americans by directing the Forest Service to consult with the Yakima Indian Nation during the study process taking place on the upper Klickitat (between Summit Creek and the Little Klickitat).

The lower Klickitat river corridor is important to Native Americans for its fish and wildlife habitat, cultural sites relating to Indian history and prehistory, and traditional use values. It is one of the only remaining dip-net fishing sites, requiring close coordination of management activities. The safety of dip-net fishing is a primary concern, as is coordination between the Native American volunteer search-and-rescue team and county search-and-rescue efforts.

The right to use traditional fishing and hunting areas has been confirmed by treaty and subsequent court decisions, as has the right to participate in the management of these resources. Federal law provides Native Americans with access to areas on federal lands traditionally used for religious purposes and state law protects Indian burial grounds.

The Task Force, which included representatives from both the Yakima Indian Nation and local River People, recognized these legal rights and that Native Americans can make a valuable contribution to the future management of the river. The primary issue is, do the alternatives adequately protect traditional uses and resources of importance to Native Americans?

Issue #4: Public access and recreation opportunities.

The lower Klickitat provides valuable and easily accessible bank fishing, boating, day use and camping opportunities. Other important recreational activities include nature study, hunting, hiking, swimming and sightseeing. These activities are enhanced by the river corridor's natural appearance, beautiful scenery, and fish and wildlife.

Recreational use of the lower Klickitat currently is low to moderate but is expected to increase, resulting in possible degradation of the recreation experience and the physical and biological environment. Recreation visitors want assured provision of public access and appropriate facilities at key sites to maintain the recreation opportunities existing today. They also are concerned about any management actions that could increase demand for recreation on the lower Klickitat, potentially leading to crowding, increased conflict among recreation visitors, and unacceptable levels and types of impacts to the landscape.

The Task Force and public opposed substantial increases in facilities or access points that could create new demand, increase conflicts between user groups, and possibly displace current visitors. They agreed, however, that limited facility and access improvements are necessary to protect the resource, channel recreation use to appropriate areas, and provide adequate and safe access.

Issue #5: The effects of resource protection actions on private property rights and the economic viability of existing and future resource uses, including timber harvest, agriculture, and grazing.

Residents of Klickitat County value the rural character of the lower Klickitat. These people, many of whom depend on natural resources for their livelihood, want this character to

be maintained. Many believe, however, that this can be accomplished without new restrictions. They suggest that existing laws and regulations are adequate and that landowners are being good stewards to their lands. Why else would the Klickitat River corridor be in such good condition that it was designated a National Wild and Scenic river?

Landowners value their rights to manage their own lands and are concerned by what they see as an erosion of these rights. Impacts to private lands are an especially sensitive issue because the Columbia River Gorge National Scenic Area Act already regulates land uses along the Columbia and on the lower 1.5 miles of the Klickitat River. At public meetings, many people asked who would be making decisions about river management, expressing concern that the eventual management plan would lead to a loss of local control, with decisions being made in Portland, Olympia, or Washington, D.C. Here is an example of this sentiment, expressed at a public meeting:

As a county resident for 20 years, I am concerned by the whole process and believe that the control people have over their lifestyle and destiny is shrinking. Federal designation would increase non-local control to the extent that locals, extending that to mean even the whole county, would be drowned out. Local stewards have proved they are capable of managing



Rocky benches near RM 1 provide access for anglers and other recreation visitors.

the land well. I am strongly opposed to any dilution of local and county management.

Specific concerns include landowners' ability to graze cattle, subdivide, and build on their land. Landowners also are concerned about the effects of increased public recreational use, including possible increases in fires, trespass, vandalism, and litter, as well as being forced into an enforcement role.

Other concerns include possible economic effects of designation, such as increases in property taxes. Local residents wonder if land prices will increase so much that they will be forced to sell, giving up the way of life they value so highly.

The lower Klickitat River corridor contains some areas of valuable timber. Many county residents and others are concerned that Wild and Scenic management will add another complication to an industry already embroiled in debate over old growth forests, log exports, and other issues that affect the viability of the timber industry.

Issue #6: County and state support for river management and their willingness and ability to be involved.

Wild and Scenic River management plans must contain descriptions of the role that will be played by local and state government in the management of the river. This is a recognition that, particularly regarding rivers flowing through private lands, the federal government's management options are limited. Several essential ingredients to successful river management are, by law, the responsibility of state or local government. For example, the state controls use of fish and wildlife resources and grants water use permits. Local government (which in unincorporated areas means the county) has authority for regulating use of private lands.

Without cooperation from state or local government, the federal government's options for managing corridor resources, and specifically land uses, are greatly restricted. About the only option available to the federal government is to gain an interest in the land through donation or purchase of either conservation easements or lands in fee title. The federal government does have the ability to control use of the water surface on designated Wild and Scenic Rivers.

The State of Washington will continue to have a key role in river corridor management, in part because about 25 percent of the land in the designated corridor is state-owned. The state has not issued a formal position regarding future management of the river or the role that the state will wish to assume; it is anticipated that such comments will be made in response to this draft EIS. One of the alternatives in particular (#2) requires the state to play a critical role in taking the lead in river management. The state is represented on the Task Force, and representatives who have been involved in the structuring of management alternatives have expressed their agencies' willingness to cooperate consistent with their authority.

From discussions with the Director of the State Scenic Rivers Program, it appears that the Klickitat has definite potential for designation as a State Scenic River and that the Program is willing to play an active role in future management of the Klickitat, provided that the entire river segment from Summit Creek to the mouth is added to the state system (Starlund, 1989).

To Klickitat County officials, the perceived threats of increased federal intervention include condemnation authority, federal pressure on Klickitat County to strengthen zoning, effects on traditional resource uses, the adequacy of compensation paid to private landowners, a reduction in property tax receipts, and increased publicity and recreational use that could result from designation.

A position statement issued by the Klickitat County commissioners on January 9, 1990, highlighted these concerns, terming the designation and study process on the White Salmon and Klickitat a "federal takeover." The commissioners said,

Although...cooperative management sounds appealing, it is difficult for the county to justify a cooperative Management whereby the county utilizes its land use policies to implement segments of the federal wild and scenic river management plan. This agreement is viewed by many county residents as a taking of property rights by the county without compensation to the local landowners.

The county would be required to play important roles under all alternatives, but particularly under Alternatives 2 and 3. The county has not agreed to undertake any of the activities proposed under those alternatives. The county's response to this draft EIS is expected to specify its position.

Issue #7: The cost and barriers to implementation of required actions.

Each of the alternatives to the no-action alternative assumes that the administrative actions and financial support called for by that alternative would actually take place. This may seem obvious, but the best-designed plan is worthless if it is not likely to be implemented successfully due to financial, administrative, or legal constraints. Task Force members, speaking as taxpayers, also were concerned about the costs of acquisition and administration.

The viability of each alternative depends on the actions called for under that alternative actually being implemented, which includes funding and administration. For example, Alternative 2 calls for the state to exercise certain coordination responsibilities. State designation would require an act of the state legislature. The State would have to follow through with state designation, and then manage the river under the State Scenic Rivers Program in a way that would meet minimum standards for resource protection required by Wild and Scenic Rivers Act. The Scenic Rivers Program would only be interested in including a National Wild and Scenic river in the state program if it could assume administrative control of the river. According to the Scenic Rivers Program Manager, use of federal condemnation authority would be unacceptable.

Currently, the Washington State Scenic Rivers Program consists of one river, the Skykomish. In the 1990 legislative

session, a bill expanding the program to add six more river segments passed the House, but did not make it out of Senate committee, in part because of controversy over the specific rivers being considered and peoples' concern that state designation could lead to a request by the Governor for federal designation (the Wild and Scenic Rivers Act provides a mechanism for doing this under section 2(a)(ii)).

Alternatives that rely partly or wholly on federal funding and management actions by the Forest Service would not be feasible without the level and type of support specified. Similarly, if an alternative calls for the county to take actions, such as strengthening zoning ordinances or the SMP, it means that the county must be willing and able to successfully undertake these activities.

Beyond support for the concept of river management, a number of questions must be answered before the state, or, for that matter, the Yakima Indian Nation, Klickitat County, the federal government, or other potential participants would agree to participate. Is the activity consistent with legal authority? Would state scenic river status and management provide sufficient protection for a federally designated Wild and Scenic river and can it be legally considered? Will costs be incurred and how will these be borne? Are staff available? Will this activity detract from other staff responsibilities?

Comments on the draft EIS made by the county, state, and other parties will be relied on to estimate the likelihood that these governmental entities would be willing and able to undertake the actions required.

2.2 Alternatives Considered But Not in Detail

During the study process, several alternatives were discussed briefly and then rejected, usually because they were not feasible, not legal, or did not appear to have much, if any, public support. These are listed below. Because some of them reference the alternatives that were considered in detail, it may be helpful to read that section (2.3) first.

Changes in the Boundaries. Although the Forest Service already set the management boundaries in the process described in Chapter 1, the Wild and Scenic Rivers Act specifies that the boundaries may be altered during the management planning process based on new information or other considerations. The alternatives do not propose changes in the boundaries because no new information on resources or land uses pointed to the need for change, and different boundaries were not proposed by Task Force members or by other members of the public. The boundaries were not appealed during the boundary-setting process, another indication that they are not a critical enough issue to warrant varying in the alternatives.

Federal Designation of the “Middle Segment.” This document assesses management plan alternatives for the lower Klickitat. The study being conducted on the upper Klickitat (from Summit Creek down to the mouth of the Little Klickitat) will lead to a decision by Congress on whether or not to add that segment to the federal system (see Chapter 1 for a brief discussion). As the reader may suspect, the river does not stop flowing between these two segments; in between lies a nine-mile stretch of river. Alternative 2 would recommend adding this middle segment to the state program. However, because Congress did not authorize a study and because it is not adjacent National Forest or other federal lands, there was no authority to conduct a federal study of the middle segment, so it is not included in the other alternatives.

State Scenic Designation for the Lower Klickitat Only. Alternative 2, discussed in detail below, would add the Klickitat River from Summit Creek down to the Columbia to the State Scenic Rivers Program. Under that alternative, the State would take the lead in managing the entire segment, including the lower Klickitat (the portion already added to the federal system). An alternative would be to have the state take the lead in managing the lower Klickitat only, and not the segments upstream from the federally-designated section. This alternative was not considered in detail because, from the standpoint of efficiency and effectiveness, the State of Washington expressed interest in river management only if the entire section of river (from Summit Creek to the mouth) could be included in the state program.

Alternative 2 But Without State Scenic Designation. An alternative that would meet the intent of Alternative 2, but would not add the lower Klickitat to the State Scenic Rivers Program, was discussed briefly. This was rejected because people agreed that in order for current management to be intensified—the goal of Alternative 2—a central coordinating body was needed to make sure that the necessary management activities actually occurred.

Management Designed to Create Highly Developed Recreation Opportunities. Although the alternatives differ in the level and type of recreation facilities, information, access, and opportunities, no alternative calls for changing the lower Klickitat to a highly-developed setting with many facilities for visitor comfort, multiple new access points, or other characteristics that would encourage much higher use levels or radically different types of use than currently exist. No public or Task Force comments were received that favored such an approach to recreation management. The study team judged this to be inappropriate given the type of opportunities the lower Klickitat seemed best-suited to provide and the potential for impact to other valuable resources.



The upper end of the designated segment (view upstream from Highway 142 bridge at Pitt, RM 10.3).

2.3 Management Alternatives Considered in Detail

This section summarizes the intent, structure, and management actions that would be undertaken for each of the four alternatives considered in detail. Table 2-1 provides more detail on the alternatives, in a tabular format for easy comparison. At this point in the process, the alternatives are not management plans, but are clearly-specified management directions. The alternative management direction eventually selected will be accompanied by a management plan in the final EIS. That plan will contain the details necessary to translate the preferred alternative's direction into action, providing additional details on how, when, and by whom management actions will be implemented.

The Task Force was actively involved in developing two of the alternatives. One of these (#2) recommends that the lower segment be designated a State Scenic River (in addition to its federal designation) so it could be managed under the State Scenic Rivers Program. The other (#3) proposes that the river be managed by a cooperative committee consisting of the Forest Service, Klickitat County, the State of Washington, and the Yakima Indian Nation. Alternative #1, the no-action alternative required by NEPA, describes the current management situation on the lower Klickitat. The final alternative (#4) was developed by Land and Water Associates to make sure that a reasonable range of alternatives was considered, as required by NEPA.

Two important aspects of the EIS process remain to be resolved: recommendation of a preferred alternative; and coordination with management of the upper Klickitat River. This draft EIS does not contain a preferred alternative. The final EIS will contain a preferred alternative, which could be

any of the four described in this document or some combination of the four, perhaps with some new characteristics. The Regional Forester will select the preferred alternative after the Task Force meets to attempt to reach consensus.

Regardless of which alternative is chosen by the Regional Forester for management of the lower Klickitat, management would be coordinated with that of the upper Klickitat. Decisions about the lower or upper river do not mandate any particular course of action on the other segment, but it makes sense for both segments to be managed in a way that facilitates coordination.

Alternative 1. This alternative describes the existing situation—what mechanisms currently are available to protect important river resources (Chapter 3 provides more detail on existing resource

protection mechanisms and trends). This is the no-action alternative required by NEPA. Adoption of this management direction would mean that the management plan would consist of existing management mechanisms; no new programs would be created and there would be no coordinating body addressing the river corridor as a whole. The county, state, and federal governments and the Yakima Indian Nation would continue to exercise their existing authorities in the river corridor. Restrictions on land uses within the lower 1.5 miles of river corridor would be subject to Columbia River Gorge National Scenic Area (CRGNSA) guidelines.

The current situation can be difficult to describe because it is always changing. For example, Klickitat County recently revised the Shorelines Master Plan, which regulates activities within about 200' of each side of the river. The Columbia River Gorge National Scenic Area Commission (Gorge Commission) recently has proposed zoning for the lower 1.5 miles of the segment, which are included within the CRGNSA boundaries. These and other existing mechanisms such as the Forest Practices Act and county zoning ordinance are revised periodically. As pointed out by many people at the public meetings, it would be incorrect to equate this alternative with inaction.

Resources in the study corridor currently receive some protection from a variety of county, state, and federal activities. The principal laws, policies, and programs protecting river corridor resources are described in Chapter 3 under "Land Use Regulations." The sub-basin planning process described under "Fish and Instream Resources" in Chapter 3 maintains and enhances anadromous fish; fish habitat improvement or enhancement programs are sometimes undertaken by various state and tribal agencies.

There are no minimum flows established for fish or recreation established, and no water quality monitoring program other than occasional state testing.

Recreation and public access are provided by the county and state as described in Chapter 3 under "Recreation Opportunities and Public Access. Although numerous opportunities are provided, there currently is no coordinated management of recreational use or access and no process for determining capacity or regulating commercial use. The county sheriff is responsible for search and rescue efforts.

The river's free-flowing character is protected by the segment's designation under the Wild and Scenic Rivers Act. This designation precludes FERC from licensing hydropower projects and prohibits federal participation in other dams and water resource projects having direct and adverse impacts.

Alternative 2. This is one of two alternatives that came out of the Task Force process. The goal of this alternative is to provide adequate resource protection while maintaining local control and minimizing effects on landowners and land use practices. All of the existing mechanisms described under Alternative 1 would continue, but would be augmented by increased recreation management, enforcement of existing regulations and coordination of river management activities. In other words, current management would remain much the same, but would be intensified.

In many states, the increased coordination and enforcement would have to be accomplished by a complex series of interagency agreements. In Washington, however, a convenient and useful coordination mechanism already exists—the Washington State Scenic Rivers Program.

This alternative would add the entire river from Summit Creek to the Columbia to the Washington State Scenic Rivers System (see Box 2-1). This would include the designated section of the lower Klickitat, the segment of the upper Klickitat that currently is being studied, and the section in between. The Forest Service would delegate management coordination of the lower Klickitat Wild and Scenic River segment to the Washington State Scenic Rivers Program. Management would be coordinated by a Scenic River Council composed of representatives of local, state, and federal governments, guided by recommendations from a Scenic River Advisory Board representing the varied interests of landowners and river users.

The State Scenic Rivers Program generally coordinates activities within 1/4 mile on each side of the river; the designated segment's established boundaries would not be changed. The state system cannot control use of private lands and has no ability to condemn land if an activity is degrading river values. The main additional resource protection mechanism would be increased efforts to work with landowners to accomplish conservation goals. This would include encouraging voluntary resource protection efforts

such as donating conservation easements (see Box 2-2), as well as providing information on tax incentives and possible sources for funding or technical assistance with forestry, agriculture, and other existing land use operations.

State and private, non-profit organizations could be asked to conserve ecologically important areas. The state Department of Ecology could make the river a priority for monitoring

Box 2-1

Procedure for Adding the Lower Klickitat to the Washington State Scenic Rivers Program

For the Klickitat River to be included in the Washington State Scenic Rivers System, the state's Committee of Participating Agencies must first find it suitable. The Committee of Participating Agencies is composed of the executive head, or the executive's designee, of each of the state departments of Ecology, Fisheries, Wildlife, Natural Resources, and Transportation, the State Parks and Recreation Commission, the Interagency Committee for Outdoor Recreation, the Washington State Association of Counties, the Association of Washington Cities, and two public members appointed by the governor.

The State Parks and Recreation Commission could then include the Klickitat in the next Scenic Rivers bill to be drafted in August for consideration by the legislature when it convenes in January, 1991. (The Klickitat could also be added to the bill at a later date, but this may decrease its chances for approval.) The bill could make inclusion of the Klickitat contingent upon adoption of the management plan developed during this EIS process, following approval of the plan's content by the Committee of Participating Agencies. The bill could also amend state law to allow inclusion of a Forest Service representative on the Klickitat River Council. A strong level of support from local citizens and from the area's legislators would likely be critical for passage.

The Washington State Parks and Recreation Commission is the legal administrator of the Scenic Rivers Program. For each river included in the system, a Scenic River Council (composed of the Committee of Participating Agencies plus local representatives) acts as an advisory body to the Commission with veto authority (Starlund, 1990). In reality, the River Council for the Skykomish, the one river currently in the system, has been making administrative decisions, with approval from the Commission.

water quantity and quality and establishing minimum instream flows.

The goal of recreation management activities would be to maintain existing recreational opportunities and coordinate planning and management of recreation use, rather than develop many new sites or add extensive new facilities that could change the nature of recreation currently provided.

Because the Forest Service has the ultimate responsibility for administering the Wild and Scenic lower Klickitat, it would maintain an oversight role to ensure that river resources were adequately protected. This would include representation on the Scenic River Council. In the event that the management mechanisms used by the State Scenic Rivers Program were not able to meet specific conservation objectives, the Forest Service would use its management authority and federal funding to augment state efforts.

Alternative 3. This is the other alternative that came out of the Task Force process. Its goal is to maintain the river resources and character much as they are today, and its chief assumption is that additional actions are needed to accomplish this goal. The Forest Service, Klickitat County, Washington State, and the Yakima Indian Nation would form a Management Committee to implement the management plan, with recommendations from a citizen group. The boundaries would be the same as under the other alternatives.

All of the existing mechanisms described under Alternative 1 would continue, but would be supplemented by expanded regulations and management actions. The county would contribute toward additional resource protection by strengthening zoning and shorelines regulations, including an expanded river buffer, a 100-foot road setback, and a prohibition on building roads on slopes within the corridor that are 50% or greater or in areas where road cuts would be visually dominant from the river or major public roads. The federal government would supplement this by purchasing a limited amount of easements and/or lands to protect river corridor resources. This would include purchase of development rights (easements) or fee title for several potential building sites, 50 acres of rare plants, 200 acres of exemplary oak communities, and 200 acres of conifer stands.

Existing resource inventories would be supplemented by more-detailed collection of data on sensitive plants and plant communities, including Oregon white oak, significant wildlife species, and cultural sites. Site plans for any identified high priority cultural sites would be developed in cooperation with the Yakima Indian Nation. Water quality and quantity would be monitored and actions taken as needed to maintain existing water quality standards and flow levels. Landowners would be encouraged (and provided with federal funding) to make shoreline habitat improvements where possible.

A comprehensive archival inventory of known cultural sites would be conducted, with emphasis on traditional and

Box 2-2

Conservation Easements

The alternatives make several references to conservation easements and purchase of lands in fee title. When a parcel of land is owned outright it is referred to as being held in "fee title;" the owner has the right to manage it as he or she sees fit subject to existing zoning and other land use regulations. If the land is sold, the previous owner relinquishes all rights to determine how the land will be used in the future.

A conservation easement is a legal agreement made by a property owner. People may grant conservation easements for many reasons, including protection of their land from inappropriate development, without having to give up other rights that come with private ownership. By granting an easement in perpetuity, the owner is assured that the resource values of the property will be protected indefinitely, regardless of who might own the property in the future.

Granting a conservation easement does not necessarily mean that a landowner loses productive use of the land. The landowner can, for example, grant an easement that gives up the right to subdivide or build but does not affect timber harvest. Similarly, an easement could give up the right to clear-cut harvest but still allow selective cutting. Each easement's restrictions are tailored to the particular property, the interests of the owner, and the resources being protected. The rights that remain after granting an easement are specifically spelled out.

As a property right, an easement has value. The landowner may choose to donate this right or, alternatively, there may be situations where it is in the interest of a public agency or a conservation organization to purchase the easement. Granting an easement can yield tax savings. If the owner wishes to claim tax benefits, he or she must either donate the easement or sell it at below market value. The extent of the tax savings depends on the extent of the rights that are foregone. For example, a landowner will realize greater tax benefit from granting an easement on readily developable land than on lands where physical features or regulations make development unlikely.

Easements or recreation use agreements also may be granted to allow recreational access across private lands. In these cases, Washington law provides landowners with protection from liability.

spiritual use areas. This would be supplemented by on-the-ground survey of lands within the boundary, and an assessment of all known and suspected historic, pre-historic, spiritual, and traditional use sites for possible inclusion on federal or state historic registers.

Recreation management goals, similar to those described under Alternative 2, would be to maintain existing recreational opportunities. A full-time river ranger (and seasonal assistant) position would be established to assist and educate the public, enforce regulations, and assist the sheriff with search and rescue operations. A program to monitor the effects of recreation on social, physical and biological conditions in the corridor would be implemented.

The federal government could use its condemnation authority to restrict new uses to protect important resource values or provide recreation. However, condemnation would be utilized only as a last resort (when all other efforts to protect resources have failed) and with recommendation by the Management Committee. The federal government could not acquire through condemnation lands within an incorporated city, village, or borough which has a zoning ordinance in force that conforms with the purposes of the Wild and Scenic Rivers Act. The federal government could acquire state lands only by donation or exchange, and could acquire lands owned by Tribes or political subdivisions of a state only with the consent of the Tribe, county, or other landowner.

The Forest Service has not initiated any new condemnation proceedings for either fee title or easements in any Wild and Scenic river corridor in the last 10 years. Previously, the Forest Service had acquired land or easements in seven Wild and Scenic river corridors. Of the 20,598 acres of land acquired in fee title, 656 acres were acquired through condemnation. Of the 20,174 acres of private land for which easements were purchased, easements on 4,655 acres were purchased via condemnation, usually because landowners used the process to establish easement price rather than because they opposed the easements.

Alternative 4. The overall management goal would be not just to maintain, but to enhance river corridor values, and provide opportunities for increased recreational use and development compatible with resource enhancement objectives. Federal acquisition of easements and lands in fee title would be the primary tool used to accomplish resource protection goals, rather than increased county regulations.

This alternative was developed by Land and Water Associates to make sure that a full range of alternatives was addressed. One consideration in developing this alternative was that the county has expressed reluctance in assisting lower Klickitat management by strengthening zoning or shorelines measures, in part because residents would not receive compensation for the increased restrictions. Another consideration was that an alternative providing additional recreation opportunities was

needed to make sure a full range of alternatives was considered.

As described under Alternatives 1, 2 and 3, the existing boundaries would remain. The Forest Service would have responsibility for management, but would be closely guided by recommendations from a formal Advisory Committee operating under the Federal Advisory Committee Act. The Act requires that meetings be advertised in the Federal Register and specifies criteria for developing a balanced group membership.

The Forest Service would supplement voluntary resource protection measures by increasing the amount of land or easements purchased to protect resources. This would include purchase of easements or land in fee title for 100 acres of rare plants, 400 acres of exemplary oak communities, and 200 acres of conifer stands.

Landowner agreements, scenic easements, or land in fee title would be acquired to meet visual quality objectives on 30 potential building sites and two recreational vehicle areas. The Forest Service also would purchase development rights (easements) or fee title on about 20 potential building sites and development rights on 135 acres in the rural residential zone near Pitt.

Water quality and quantity would be monitored and actions taken as needed to maintain existing water quality standards and flow levels. Landowners would be encouraged (and provided with federal funding) to make shoreline habitat improvements where possible.

A comprehensive archival inventory and oral history of known cultural sites would be conducted, with emphasis on traditional and spiritual use areas. This would be supplemented by on-the-ground survey of lands within the boundary, an assessment of all known and suspected historic, pre-historic, spiritual, and traditional use sites for possible inclusion on federal or state historic registers, and recommendations for protection of all significant cultural sites.

Recreation management would be designed to accommodate higher levels of recreational use than under Alternatives 2 or 3. This would include increased public access, facilities (adding two overlook points and improving existing roadside pullouts/parking areas along Highway 142), and placement of interpretive signs and/or displays. In particular, people would have a better opportunity to learn about the dip-net fishery.

The Forest Service would have the same condemnation authority as under Alternative 3 and would consider recommendations from the Advisory Committee.

**2.4 Tabular Presentation of
Alternatives**

As required by NEPA, the following matrix (Table 2-1) presents the alternatives in comparative form.

Table 2-1 Lower Kickitat Management Plan Alternatives

	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Intent	Maintain the existing level of resource protection, allowing current land uses and river management practices to continue. The management plan would contain no new mechanisms to provide additional resource protection, coordinate river management, or manage recreational use.	Fine-tune existing resource protection mechanisms and increase enforcement of existing laws while protecting private property rights and maintaining local control over land use decisions. Protection of resources on publicly-owned lands in the corridor would be increased through better coordination of existing laws, programs, and policies. Landowners would be provided with technical assistance and encouraged to voluntarily protect resources on private lands.	Maintain the character of private and public land in the river corridor close to the way it appears today. Provide long-term protection of significant river corridor resources with a combination of county, state, and federal actions that maintain existing resource uses and protect private property rights to the extent possible.	Enhance river corridor resource values through federal purchase and management of easements and lands in the corridor. The lands and easements acquired would be used to enhance scenic, fish, wildlife, vegetation, and recreational values. The public would be provided with additional opportunities to recreate and benefit from the river corridor.
Boundaries	Existing Wild and Scenic boundaries as determined by the Forest Service average slightly over 1/4 mile on each side of river (420 acres per mile of river).	Same as Alt. 1.	Same as Alt. 1.	Same as Alt. 1.

	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Management Structure	<p>The county, state, and federal governments would continue to exercise their existing authorities in the river corridor, as described in Chapter 3 and below.</p>	<p>The river between Summit Creek and the confluence with the Columbia would be added to the Washington State Scenic Rivers System. State designation would be in addition to the lower segment's federal designation as a National Wild and Scenic River. Management would be implemented by a Scenic River Council composed of the state's Committee of Participating Agencies plus representatives from Klickitat County. The Council would be guided by recommendations from a Scenic River Advisory Board representing the varied interests of landowners and river users. The county and individual landowners would continue to have primary management responsibility for private lands. Forest Service oversight would guarantee that minimum acceptable standards of resource protection were met. If resources were not being protected, the Forest Service would be able to use its funding and management authorities to accomplish river conservation objectives.</p> <p>A half-time river ranger (State employee) would conduct monitoring and enforcement activities, serve as a contact person for landowners and recreation visitors, and perform related management duties.</p>	<p>The Forest Service, Klickitat County, Washington State, and Yakima Indian Nation would be represented on a Management Committee. The Committee would implement the management plan with recommendations from an informal citizen advisory group.</p> <p>A full-time river ranger and a seasonal assistant (Forest Service employees) would conduct monitoring and enforcement activities, serve as contact people for landowners and recreation visitors, and perform related management duties.</p>	<p>The Forest Service would implement the management plan, with recommendations from a formal Advisory Committee of landowners and people representing the county, state, Yakima Indian Nation, and other interests. The Advisory Committee would operate under the provisions of the Federal Advisory Committee Act. Typically, such committees are very active during the first 1-3 years of plan implementation, after which they are convened as needed to make recommendations on key issues that surface.</p> <p>River manager and seasonal assistant would perform duties as under Alt. 3.</p>

General Approach to Resource Protection		Alternative 1		Alternative 2		Alternative 3		Alternative 4	
		<p>Existing laws, programs, and policies include the National Wild and Scenic Rivers Act, Shorelines Master Plan (with proposed revisions), county zoning ordinance, the state Forest Practices Act and Hydraulic Project Approval process, the Northwest Power Planning Council's (NPPC) Protected Areas Program, the sub-basin plan for anadromous fish, and, for the lower 1.5 miles of the river, the Columbia River Gorge National Scenic Area (CRGNSA) management guidelines.</p>		<p>There would be increased protection of resources on state-owned lands, increased coordination and enforcement of county department and state agency activities, and increased efforts to work with landowners to accomplish conservation goals. These would include encouraging voluntary resource protection efforts such as donating conservation easements, as well as providing information on tax incentives and possible sources for funding or technical assistance with forestry, agriculture, and other existing land uses. State and private non-profit organizations could be asked to assist in conserving ecologically important areas.</p>		<p>The county would strengthen existing regulation, add new ones, and increase enforcement to provide stronger resource protection (see description under Land Use Regulations, below). The Forest Service would work with state agencies to encourage management consistent with this plan and to increase coordination and enforcement efforts. The Forest Service would supplement county and state efforts by purchasing conservation easements or lands in fee title from willing sellers. Voluntary resource protection efforts would be encouraged as in Alt. 2.</p>		<p>The primary resource protection mechanism would be federal acquisition of lands in fee title or easements. The Forest Service would work with the state and county to encourage management consistent with this goal. The county generally would not be asked to strengthen existing Shorelines or zoning regulations.</p>	

Guidelines for Acquisition	Alternative 1	Alternative 2	Alternative 3	Alternative 4
	<p>No state or federal acquisition of lands or easements within the corridor.</p>	<p>The state would purchase minimal land or easements (with federal funding) to provide recreational access, but not to protect resource values. Voluntary donation of easements would be emphasized. No state condemnation authority. Federal condemnation authority is an area of controversy; the State Scenic Rivers Program is opposed to participating in management under this alternative if federal condemnation is allowed, while the Forest Service has said it cannot give up this authority.</p>	<p>The Forest Service would acquire a limited amount of lands and/or easements to achieve visual quality objectives, protect other resource values, and provide public access. Lands or easements would be acquired at fair market value based on the following criteria: likelihood of new development or land use that would be incompatible with resource protection; failure of other mechanisms (such as voluntary actions by landowners or county regulation) to accomplish resource protection; and availability of new opportunities for purchase from willing sellers (such as abandonment of rights-of-way). Approval of the Management Committee would be needed for any acquisition. The Forest Service would have condemnation authority but would use it only as a last resort after all other resource protection measures have failed, or when requested by landowners to help determine fair market value.</p>	<p>The Forest Service would use acquisition of lands and/or easements as a principal tool to achieve visual quality objectives, protect other resource values, and provide public access. The amount of lands and/or easements acquired would exceed that of Alt. 3 but acquisition criteria would be the same. The advisory committee would be consulted prior to initiating any acquisition but the final decision would be made by the Forest Service. Condemnation authority could be used as in Alt. 3.</p>

Instream and Shoreline Resources	Alternative 1	Alternative 2	Alternative 3	Alternative 4
	<p>Dams: Dams and other federal water resource projects adversely affecting river resources are prohibited by the Wild and Scenic Rivers Act. Hydropower dams are also prohibited by the NPPC Protected Area Program.</p> <p>Shorelines: Hydraulic Project Approval is required for stream bed or bank alteration (can be refused or made conditional based on impacts to fish). Draft SMP revision: proposes a 100' structural setback from the river (50' at Lyle); limits timber harvest within the shorelines area (200') to 30% of the merchantable stems every ten years; and creates a natural zone within 50 feet of the river in which most uses are prohibited, and timber harvest is limited to one 30 percent partial cut within the next 10 years.</p> <p>Water Quality and Quantity: No minimum flows for fish or recreation established; no monitoring program other than occasional state testing.</p>	<p>Dams: State designation would add state-level dam protection from Summit Creek to the mouth.</p> <p>Shorelines: Stream bank erosion control, diversions and other new instream structures would be allowed if they enhance river resources or reduce existing impacts (for example, consolidation of diversion points). Natural methods of bank stabilization (bioengineering solutions) would be strongly encouraged. Landowners and agencies would be encouraged to make shoreline habitat improvements where possible (for example, planting vegetation in riverbank gabions). Same SMP provisions as Alt. 1.</p> <p>Water Quality and Quantity: State DOE would monitor water quality and quantity and establish minimum instream flows.</p>	<p>Dams: Same as Alt. 1.</p> <p>Shorelines: Stream bank erosion control, diversions and other new instream structures would be managed as in Alt. 2 except natural methods of bank stabilization (bioengineering solutions) would be required under most circumstances. Federal funding would be available for shoreline improvements. The county would strengthen the Shorelines Master Plan to widen the river buffer to include: existing woody vegetation up to 100' from the river bank between Wheeler Creek and RM 8.8 on the west bank and RM 9.2 on the east bank; and the area between Highway 142 and the river south of RM 9.2. (As intended by the county ordinance, the river buffer would be an area where vegetation would remain largely undisturbed. Minor modification could be allowed under special circumstances.)</p> <p>Water Quality and Quantity: Federal funding would be available to monitor and maintain water quality and quantity, including possible future purchase of water for instream flows if substantial new water withdrawals are likely.</p>	<p>Dams: Same as alt. 1.</p> <p>Shorelines: New rip rap, concrete retaining walls, exposed rock gabions and other similar structures would not be allowed except for emergency reconstruction. Same river buffer as in Alt. 3, except that it would be maintained by federal acquisition of easements or lands in fee title.</p> <p>Water Quality and Quantity: Same as Alt. 3</p>

	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Instream and Shoreline Resources (continued)	Fish: Sub-basin planning process protects anadromous fish. Fish habitat improvement or enhancement programs are sometimes undertaken by various state and tribal agencies.	Fish: Similar to Alt. 1 except the creel census to be conducted regularly as part of recreation management and monitoring would provide the state with better information on fishing pressure.	Fish: Same as Alt. 2.	Fish: Same as Alt. 2.
Vegetation and Wildlife	State and federally managed lands provide some protection for vegetation and wildlife values. Resources on private lands are regulated by existing laws, policies, and programs. Reconnaissance-level data exists for cultural resource sites and rare plants and wildlife; detailed inventory data exists for forest types. State and federal agencies and private organizations are cooperating to develop strategies to conserve Oregon white oak. The Washington Department of Wildlife is conducting an extensive survey of oak stands in the region.	State agencies would be provided with funding to conduct more-detailed inventories of rare plants, oak communities and habitat for threatened, endangered, and sensitive wildlife species. Government agencies and departments would be funded to continue work on oak conservation with the goal of developing an oak conservation plan to establish guidelines to manage oak and mixed stands for wood production, grazing, wildlife and ecological values. The oak plan would be adopted as policy on publicly-owned lands, and would be distributed to private landowners, who would be encouraged and provided with technical assistance to implement it on a voluntary basis. State agencies also would develop a voluntary program for landowners to conserve other important resources identified, such as rare plants. The county would be encouraged to include lands managed for oak conservation, upon landowner request, in the Current Use Tax Program (under the Open Space classification) for reduced property taxes.	Same oak conservation plan provisions as in Alt. 2, with increased funding. The cooperative management committee would take the lead in promoting voluntary programs to protect vegetation and wildlife resources. Federal funding would be available to conduct resource inventories and purchase easements or land as follows: 50 acres to protect rare plants (plus additional funding for fencing around rare plant areas where appropriate); 200 acres to protect exemplary oak communities; and 200 acres to retain the visual qualities of identified conifer stands adjacent the river (rare plant and oak sites would be identified following the planned detailed inventory). The open space program would be expanded as in Alt. 2.	Same oak conservation plan provisions as in Alt. 3. The Forest Service would take the lead in promoting voluntary vegetation and wildlife protection programs. Federal funding would be available to conduct resource inventories and purchase easements or lands as follows: 100 acres to protect rare plants (plus additional funding for fencing rare plant areas where appropriate); 400 acres to protect exemplary oak communities; and 200 acres to preserve identified conifer stands (also protecting views to and from the river).

Traditional Uses and Historic Resources	Alternative 1	Alternative 2	Alternative 3	Alternative 4
	<p>Traditional Uses: Native Americans have treaty rights that provide access for fishing and partial access for other uses. Shore lands along the dip-net fishing area are mostly in public or Native American ownership. Safety of dip-net fishermen is a concern as numerous drownings have occurred.</p>	<p>Traditional Uses: Same as Alt. 1, except a program to decrease accidents and drownings of dip-net fishermen would be implemented in cooperation with the Native American search-and-rescue team.</p>	<p>Traditional Uses: Access would be as in Alt. 1. Native Americans would be provided with staff and funding to develop a site management plan for the Klickitat gorge. A program to decrease accidents and drownings of dip-net fishermen would be implemented, and technical assistance and funding provided to the Native American search-and-rescue team.</p>	<p>Traditional Uses: Same as Alt. 3.</p>
	<p>Inventory/Evaluation: Potential historic sites are evaluated on a case-by-case basis as development projects are proposed. Sites potentially eligible for state or federal historic registers are evaluated further and designated as warranted. No other surveys are undertaken.</p>	<p>Inventory/Evaluation: Same as Alt. 1, except areas to be affected by recreational development will be inventoried for cultural resources prior to improvement.</p>	<p>Inventory/Evaluation: Federal funding would be used to conduct an archival inventory of sites within the boundary and an on-the-ground survey of public lands in the corridor. Sites that are high priority for protection would be identified.</p>	<p>Inventory/Evaluation: Federal funding would be made available to compile a comprehensive archival inventory and oral history of sites with emphasis on traditional and spiritual use areas and to conduct on-the-ground surveys of lands within the corridor. All known and suspected historic, pre-historic, spiritual, and traditional use sites would be assessed for possible inclusion on federal or state historic registers.</p>
	<p>Resource Protection: No registered historic sites; sites registered in the future will be partially protected by state or federal law. No acquisition is undertaken to protect historic resources. Indian graves are protected by state law. (Interpretation of cultural resources is discussed under recreation.)</p>	<p>Resource Protection: Same as Alt. 1.</p>	<p>Resource Protection: Site plans would be prepared for sites found to be high priority for protection in cooperation with the Yakima Indian Nation. Plans would include monitoring and, on a limited basis, acquisition.</p>	<p>Resource Protection: Significant sites would be placed on state or federal registers. All significant cultural sites would be protected through acquisition by fee-title or easement or through other appropriate long-term strategies. Sites would be monitored for compliance.</p>

Recreational Opportunities and Public Access	Alternative 1	Alternative 2	Alternative 3	Alternative 4
	<p>Goals: Continue existing management practices, with no coordinated management of recreational use and public access.</p> <p>River Access and Facilities: Two county parks at RM .8 (primitive sanitation facilities) & RM 10.2 (unimproved boat access, no facilities), one WDW/IAC primitive recreation site at RM 4.9 (unimproved boat access, sanitation facilities, unimproved camping area), two access sites on private land at RM 8.1 and RM 5.5 (unimproved boat access, no facilities). WDW/IAC site requires visitors to have either a hunting, fishing, or conservation license (but not enforced). Sites generally are not maintained except for periodic litter pickup at WDW site. Highway 142 is used for fishing access at many locations including near RM 1.</p> <p>Public Information: Very limited; single informational sign at one county park and WDW site; no additional efforts to interpret resources or to inform people that the river is designated as a National Wild and Scenic River.</p>	<p>Goals: Maintain and enhance existing recreational opportunities (semi-primitive non-motorized except for river below gorge, which would continue to provide semi-primitive motorized opportunities) and limit the impacts of recreation on river resources and private lands. Do not attempt to increase demand for river recreation through active promotion or advertising.</p> <p>River Access and Facilities: Provide sanitation and parking facility improvements and erosion control measures at both county parks; provide primitive boat launch/takeout at RM 10.2 county park; attempt to obtain legal access to private sites at RM 5.5 and RM 8.1 (using recreation use agreements or acquisition on a willing seller basis); seek funding to improve camping opportunities at the WDW site at RM 4.9; encourage Department of Transportation to provide limited improvements at two roadside pullouts between RM 1 and 3.5.</p> <p>Public Information: Provide limited number of additional signs at parks and WDW site; develop and disseminate brochure addressing resource protection, how to deal with accidents and emergencies, and respect for tribal and private lands.</p>	<p>Goals: Maintain and enhance existing (semi-primitive non-motorized recreational opportunities, except for river below gorge, which would continue to provide semi-primitive motorized opportunities); similar goals as Alt. 2 but with additional federal funding and management authority to guarantee planning, management and acquisition activities.</p> <p>River Access and Facilities: Provide sanitation and parking facility improvements and erosion control measures at both county parks; provide primitive boat launch/takeout at RM 10.2 county park; obtain legal access to private sites at RM 5.5 and RM 8.1 (using acquisition on a willing seller basis); improve camping opportunities at the WDW site at RM 4.9; provide limited improvements at two roadside pullouts between RM 1 and 3.5. Improve trail to river for fishing at RM 1.</p> <p>Public Information: Alt. 2 plus additional signs, including Wild and Scenic River signs at each end of the river corridor. Interpretive brochure would provide information on resources along the lower Klickitat, including dip-net fishing.</p>	<p>Goals: Provide a roaded natural experience (with higher use levels and additional recreational development). The greater level of federal ownership of lands in the corridor would allow additional recreational opportunities to be developed in the future. Promote the river so more people can take advantage of the recreational opportunities available.</p> <p>River Access and Facilities: Alt. 3 with site expansion of the WDW site and county park through purchase of adjacent lands; additional improvements and site hardening measures (such as parking barriers and campsites at WDW site, limited paving and revegetation at existing sites, and sanitation facilities at fishing area at RM 1). The potential for trails along the river and other recreational opportunities would be explored in the future.</p> <p>Public Information: Alt. 3, plus the development of an interpretive plan and greater on-site signing and information. This would include a viewing site and display on dip-net fishing, located to avoid disturbance of dip-net anglers and prepared in cooperation with the Yakima Indian Nation. The interpretive plan would use information from the monitoring effort to provide desired information to recreation visitors.</p>

Recreational Opportunities and Public Access (continued)	Alternative 1	Alternative 2	Alternative 3	Alternative 4
	<p>Regulations: No regulation of on-river or access site noncommercial recreational use, although WDW site is checked by game wardens regularly, primarily to check fishing licenses. As of July 1, 1990, the Forest Service is requiring commercial users (guides and outfitters) to pay a fee and obtain a Forest Service permit to begin or continue commercial activities. For the 1990 use season, these permits are temporary and are available to any outfitter meeting permit requirements, which include an approved operating plan, State of Washington license, insurance, and a performance evaluation. If necessary sometime in the future, the outfitter permit system could be used as a way to regulate the number of outfitters using the river. Commercial use of the river currently is limited primarily to salmon and steelhead fishing, with only a few outfitters using the river.</p> <p>Monitoring: No systematic monitoring of recreation use or physical, biological, or social conditions that are present. Limited use level information and no information about trends in use, visitor needs and preferences, or the relationship between use patterns and the physical, biological, and social conditions in the river corridor. Existing information on recreational use is not adequate to provide a basis for making many critical management decisions.</p>	<p>Regulations: Boating would be prohibited in the gorge between the fish ladder and the foot of the gorge to prevent conflicts with Native American dip-net fishing. Establish no regulations on noncommercial use until a minimum of one full season of monitoring social and physical conditions is completed; if management action is called for based on evidence of or potential for undesirable impacts to recreation experiences, the landscape, or private lands, enact indirect (soft) measures such as visitor education and information to accomplish goals without limiting use levels or enacting regulations which would unnecessarily restrict visitor freedom. If these indirect measures are not successful, enact more direct regulations that address the problems (such as use level limits or bans on certain types of behavior such as campfires). Direct actions are not anticipated to be needed in the short term because there currently is little evidence of use-related impacts. The permit system for outfitters would be the same as under Alt. 1.</p> <p>Monitoring: Monitor social, physical, and biological conditions and how recreational use is affecting these conditions (see detailed description in section 2.5). Due to limited anticipated funding and personnel, monitoring would not be as intensive as under Alt. 3.</p>	<p>Regulations: Similar to Alt. 2 in general management approach. Motorized boating would be limited to the pooled section of river below the Fisher Hill Bridge. Greater management presence due to full-time river manager and seasonal river ranger would allow additional visitor contact and enforcement of any needed regulations, which may be needed sooner (than under Alt. 2) because of this alternative's greater emphasis on resource protection. However, the river appears to be well below capacity and indirect management actions should be effective for at least the short term. The permit system for outfitters would be the same as under Alt. 1.</p>	<p>Regulations: The increased number of visitors may require a greater level of regulation and enforcement to keep the impacts of recreational use on other river resources and land uses at acceptable levels. Site hardening, information and education programs, and additional facilities should help to mitigate potential impacts such as trampling of vegetation or the potential for trespass, littering, or wildfires. Same regulation of motorized use and boating in the gorge area as under Alt. 3. Direct regulations such as use limits would be implemented only as a last resort because the goal is to provide more people with the opportunity to recreation on and along the river—but not at the expense of other important resource values. Same permit system for outfitters.</p> <p>Monitoring: Same as Alt. 3.</p>

	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Recreational Opportunities and Public Access (continued)	Safety: Sheriff is responsible for search and rescue efforts, with some limited outside funding.	Safety: Same as Alt. 1 with potential to seek additional funding to provide technical and financial assistance to sheriff's safety program and improve coordination with volunteer search and rescue efforts.	Safety: Similar to Alt. 2 with provision of federal funding for assistance with sheriff's safety program to ensure development of safety plan to establish response protocol, provide safety training and coordination with the local Native American search and rescue volunteer group.	Safety: Same as Alt. 3.
Visual Resources	Columbia River Gorge National Scenic Area (CRGNSA) protects scenic quality of the lower 1.5 miles of river corridor (with the exception of the Lyle Urban Area). Under proposed regulations, new residential and commercial development would not be allowed in the bulk of this area; most other land uses would be restricted, except forest practices. No other coordinated management of scenery exists for the rest of the river corridor (although there are some aesthetic considerations in the county's SMP revision).	The visual quality objective would be partial retention—to keep new land uses and activities visually subordinate to the existing landscape. State agencies would consider scenic impacts when planning activities on state lands and landowners would be encouraged to consider scenic values in their land use and property management activities. CRGNSA areas managed same as under Alt. 1.	The visual quality objective of partial retention would be accomplished through strengthened county regulations, landowner agreements and purchase of easements or lands. All new land use activities and development would be visually subordinate to their landscape setting, except areas with existing visually dominant development; new development in these areas would be compatible with landscape settings. The Management Committee would seek to mitigate the visual impacts of several existing structures through landowner agreements. CRGNSA areas would be managed as under Alt. 1.	The visual quality objective would be partial retention and enhancement of scenic quality through landowner agreements and acquisition of easements and land. All new land use activities and development would be visually subordinate to their landscape setting. No new development would be allowed between the highway and river. The Forest Service would seek to mitigate the visual impacts of several existing structures, using acquisition as a last resort. CRGNSA areas managed same as under Alt. 1.

	Alternative 1	Alternative 2	Alternative 3	Alternative 4
<p>General Approach to Land Use Regulations</p>	<p>Existing land use regulation mechanisms. No special efforts to coordinate regulations or information about them within the river corridor. CRGNSA regulations apply to lower 1.5 miles of river.</p>	<p>Coordination of agencies with jurisdiction would be improved. On state lands, state agencies would consider the impacts on river values of any activities planned for the river corridor. For private lands, existing voluntary programs would be promoted to help keep lands in forestry and agriculture (such as current use tax incentives and easement donations). Landowners would be provided with information on current regulations and technical and financial assistance available to landowners. CRGNSA regulations same as under Alt. 1.</p>	<p>Alt. 2 with increased county regulation of new land uses (existing land uses would continue) as described below. Federal purchase of easements or land as needed to insure maintenance of the existing character and qualities of the river corridor. CRGNSA regulations same as under Alt. 1.</p>	<p>Alt. 3 without increased regulation by the county. Most existing land uses would continue, but uses adversely affecting the natural character of the river could be phased out through purchase from willing sellers. New uses would be allowed only if they were compatible with maintaining a rural, natural corridor. CRGNSA regulations same as under Alt. 1.</p>
<p>Residential and Commercial Development</p>	<p>Development would be allowed subject to existing county zoning and Shorelines Master Plan. This includes a 20-acre minimum lot size in most areas and a 100' river setback; commercial uses may be conditionally allowed outside of the shorelines area. The draft SMP revision requires a minimum 660' river frontage for most of the length of the segment for newly divided lots, and prohibits commercial development outside of Lyle. CRGNSA proposed zoning prohibits most development outside the Lyle Urban Area.</p>	<p>No new regulations, but there would be increased monitoring, enforcement and coordination of existing regulations. Clustering of new structures would be encouraged. Landowners would be encouraged to conserve river values and would be provided with educational materials that could be used when building or modifying homes.</p>	<p>The county would strengthen zoning and SMP regulations as follows: require a minimum 100' road setback (this could be increased if necessary for screening houses from the highway and river); reduce the rural residential area at the north end of the corridor to approximately the size of the existing community at Pitt; regulate road construction as specified below; require retention of vegetation for new residences; and establish additional guidelines on granting of conditional uses. No zone changes inconsistent with this plan would be allowed. The Forest Service would supplement increased county regulation by: seeking landowner agreements or purchasing scenic easements to reduce visual impacts of existing and potential development at 12 sites and at Steelhead Run; purchasing development rights (easements) or fee title on 8 potential building sites from willing sellers.</p>	<p>Residential development would be limited by a federal acquisition program. The Forest Service would: obtain landowner agreements or scenic easements to screen development on about 30 potential building sites; acquire development rights or fee title on about 20 potential building sites, plus the 135-acre area near Pitt zoned rural residential; obtain landowner agreements, easements or fee title to reduce visual impacts of RVs at Steelhead Run and Wheeler Creek and of several existing permanent structures elsewhere in the corridor.</p>

	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Agriculture and Grazing	The draft SMP revision limits agricultural uses to non-intensive grazing and requires a 100' setback from the river for new structures. Intensive agricultural practices are allowed elsewhere in the corridor.	State and federal agencies would provide education and assistance to enable landowners to voluntarily reduce impacts of existing practices. Landowners would be encouraged to cluster new farm and ranch structures with those already in existence when possible.	Alt. 2, plus a 100' road setback for new agricultural structures. Grazing use would be monitored to ensure compliance with any applicable SCS grazing plans. Funding would be provided for fencing or other cattle control measures to protect sensitive areas (such as rare plant sites or riparian areas susceptible to overgrazing).	Same as Alt. 3.
Forestry	Forest practices are regulated by the state Forest Practices Act (including a managed river buffer); proposed SMP revision restricts timber harvest within 200' of the riverbank to 30 percent of the merchantable stems every 10 years, and within 50' of the riverbank to a one-time 30 percent partial cut within the next 10 years.	Landowners would be encouraged to design and practice logging activities to conserve river values. An Oak Conservation Plan would be implemented as described under "Upland Resources."	Same as Alt. 2, plus timber harvest would be subject to a widened buffer zone and purchase of conservation easements as specified under "Instream Resources" and "Vegetation and Wildlife" above.	Same as Alt. 3.
Roads and Bridges	The county establishes requirements where private roads meet public roads; no restrictions on bridges.	Same as Alt. 1; the county would be encouraged not to allow roads that would adversely affect river values.	The county would prohibit building roads within buffer, on slopes within the corridor that are 50 percent or greater, and in locations where cut banks would be visually dominant from the river or highway. No new bridges could be constructed (except for rebuilding at existing sites).	Same as Alt. 3.

Table 2-1 (continued). Summary of Estimated Costs Associated With Each Alternative*

	Recreation			Resource Protection		Other initial Administration Costs ⁴	Total One-time Cost	Annual Management Cost ⁵
	Acquisition and Easements	Facilities	Monitoring/ Site Design	Acquisition	Studies/ Inventories ³			
Alternative 2 ¹	\$6,000	\$125,000	\$60,000	0	\$90,000	\$50,000	\$331,000	\$70,000
Alternative 3 ²	\$12,000	\$155,000	\$90,000	\$732,000	\$140,000	\$105,000	\$1,234,250	\$105,000
Alternative 4 ²	\$12,000	\$215,000	\$90,000	\$2,112,000	\$165,000	\$55,000	\$2,649,000	\$120,000

* Costs associated with Alternative 1 are difficult to estimate because they are part of existing budgets and not dedicated to the river corridor. No acquisition programs exist currently.

1 The state and Forest Service would each contribute 50 percent of one-time and annual costs.

2 The Forest Service would contribute 100 percent of one-time and annual costs.

3 These costs include: an inventory of rare plants, plant communities and wildlife habitat; development of an oak conservation plan; developing water quality and quantity monitoring program; and inventory of cultural sites (Alts. 3 and 4 only).

4 These costs include a shoreline improvement fund available to landowners (Alts. 3 and 4 only) and payments to the county for setting up its initial participation in river management.

5 These are the estimated annual costs for each of the first three years of river management, after which the estimates would change. Costs included are monitoring activities, site maintenance, and continuation of the recreation use study.

2.5 Monitoring

Introduction. Section 10(a) of the Wild and Scenic Rivers Act states,

Each component of the national wild and scenic rivers system shall be administered in such a manner as to protect and enhance the values which caused it to be included in said system, without ... limiting other uses that do not substantially interfere with public use and enjoyment of these values.

Federal guidelines interpret this to mean that management should ensure "nondegradation and enhancement" of designated river corridors. To ensure that management actions achieve the desired results, a program of monitoring and evaluation is needed. To be effective, such a program must consider both the land management activities that might occur and the resource values that are to be protected and enhanced.

Under the current situation (Alternative 1), monitoring of a variety of land use and resource factors is done by county, state, and federal agencies as part of their normal management activities. The county, for example, monitors compliance with zoning, while the Washington Departments of Wildlife and Natural Resources respectively monitor compliance with the state's hydraulics code and forest practices act. Currently monitoring is seldom systematic, done mainly in response to individual, site-specific needs.

If Alternative 2, 3, or 4 (or a combination thereof) is selected as the preferred management strategy, a prescribed monitoring and evaluation program would be implemented. This program would specify: 1) the land uses and resource values to be monitored; 2) the objectives for each; 3) the standards that would be used to evaluate each of these uses and values; and 4) the procedures that would be followed in applying these standards. The specifics for this program will be developed in conjunction with the river management plan, but would include the following components.

Land Management Activities. In the foreseeable future, forest management, cattle ranching, and residential/recreational development are the land management activities that appear most likely to occur along or near the lower Kliekitat. The purpose for monitoring these uses of the land is to determine the extent to which they are compatible with identified significant river resources. The emphasis of this monitoring would be on landscape change due to new uses, rather than existing uses. It also would be important to monitor the effects of land uses on each other, because conversion of forest or agricultural land is a concern of many.

Several parties, including the county and at least three state agencies, are now involved with monitoring of timber harvest, residential construction, and agricultural practices. A cooperative agreement among these parties would outline procedures for making monitoring more systematic and

efficient. The river management group also would monitor applications for timber harvest permits, zone changes, and other land conversions, evaluating these according to river management plan goals.

All of the alternatives include the use of conservation easements for resource management. To be successful, a conservation easement program must make provisions for monitoring. Monitoring of easements is the responsibility of the party holding the easement, although arrangements could be made to have this task performed by others; the Forest Service would likely have a major role. Monitoring would require at regular inspections to make sure the terms of the easement were being followed.

Instream Resources. The Forest Service and others involved in management of the river would monitor implementation of state and federal programs that regulate dam construction, bank alteration, and other potential impacts to the free-flowing nature of the river. A streamflow monitoring program would be developed in coordination with the Washington Department of Ecology. This would include evaluations of upper river and tributaries that contribute to the flow through the lower river. A water quality monitoring program would be developed, again through coordination with DOE and/or the Soil Conservation Service. One alternative could be to provide seed money for a local high school to establish an ongoing monitoring program using biology students.

Fish. Anadromous fish enhancement activities taken in support of the Kliekitat Sub-basin Plan would be closely monitored by fisheries biologists from participating agencies and the Yakima Indian Nation. Fish production and habitat quality would be the basic measures for evaluation. For resident fish, the Washington Department of Wildlife would be requested to determine the condition of resident fish populations and habitat in the lower Kliekitat using standard techniques. The factors selected could then be used to monitor changes over time to fish populations and habitat. Baseline data would be collected within two years of the initiation of the management plan.

Vegetation and Wildlife. Annual monitoring of endangered, threatened, or sensitive plants and animals would be initiated. This would include reviews of both the species and their habitat and would be performed in cooperation with appropriate state agencies. Use of the corridor by big game and furbearers would be monitored using existing information as a baseline. The emphasis would be on identifying any effects of land use conversion. Appropriate field survey techniques would be employed for all plant and wildlife monitoring. The sophistication of these efforts would depend on the level of funding available.

Cultural Resources. Development projects that may require substantial ground disturbances would be evaluated on a case-by-case basis for possible impact to recorded historic

and prehistoric properties. This evaluation would typically be funded by the party proposing the development under the guidance of the Washington Office of Archaeology and Historic Preservation. Recorded sites also would be monitored on a regular basis by the river management team to determine changes over time. Techniques for this would likely include the development of a photographic record. Changes would be evaluated for potential adverse effects and, as necessary, mitigation measures would be initiated.

Monitoring of the Klickitat gorge would focus on ensuring continued opportunities by Native Americans to access traditional dip-net fishing areas. A secondary objective would be to ensure that surrounding land uses continued to be compatible with the area's historic and cultural significance. Any monitoring of the Klickitat gorge would be done in cooperation with local Native Americans.

Recreation. Better information on recreational use is needed before specific recreation management objectives can be developed; the same type of information would be used in the future to monitor progress in reaching the objectives. Right now, all that exists is rough estimates of recreational use patterns; more accurate information is needed on how many people use the lower Klickitat river corridor for recreation, as well as more information on the timing, distribution, and impacts of recreational use.

In addition, developing objectives and monitoring their attainment requires information about the people who visit the lower Klickitat, including why they visit the river, what types of experiences they have, and their views on what recreation managers could do to improve the quality of recreation opportunities. Creel information would be collected from anglers and provided to the Washington State agencies to help manage sport fishing. A site monitoring program would be instituted to measure recreation site wear and tear, such as amount of bare ground at use areas, or litter. A record would be kept of all incidents (such as trespass or vandalism) reported by landowners.

This information would be collected several ways. Traffic counters would be used to measure use levels at public access points. A year-round visitor survey would be undertaken to learn more about recreational use and visitors. The survey would be repeated as needed in subsequent years as recreational use changes. The river manager would conduct less-formal monitoring of other characteristics as part of his or her regular duties.

Visual Quality. Visual quality would be monitored in terms of the objectives set for river corridor management. Monitoring would address both major changes and incremental changes and would focus on views from the river, the highway, and specific public use sites. Field checks would be conducted for proposed projects with a high potential for adversely affecting significant views. Photography would

serve as the principal means for establishing a record of changes in visual quality over time. Photo documentation would be executed according to a prescribed program which specifies the type, location, and frequency of photo documentation activities. Photo documentation could include photos to or from key locations, aerial photos which emphasize land use change, and videotaping of sequential experiences, such as boating or driving. The Forest Service would likely be responsible for implementing the visual quality monitoring program.



CHAPTER 3

Affected Environment



The Klickitat river valley winds up from the massive Columbia. Highway 142 bridge at mouth is at bottom center, just to the left of the town of Lyle.

This chapter first describes the regional setting and history of the lower Klickitat. The rest of the chapter provides an overview of the physical, biological, social, and economic resources of the river corridor. This discussion includes land ownership patterns, land uses, and the existing regulations governing land uses. Any resources found to be outstanding are highlighted and described in the accompanying boxes.

3.1 Regional Setting

The Klickitat River is located in south-central Washington State. From its origin in the Goat Rocks Wilderness, the river flows generally south for 96 miles, meeting the Columbia in the Columbia River Gorge. This remarkable natural feature has contributed much to the Klickitat River's biological diversity and rich cultural history.

The 1,300 square-mile Klickitat drainage incorporates portions of two major physiographic zones, the Cascade Mountain Range and the Columbia Basin. As the river descends over 5,000 feet, it passes through many diverse habitats and forest types. Tableland topography characteristic of the Columbia Plateau, with its grasslands and oak woodlands, is most evident on the east side of the river. To the west, the river's banks rise to meet Cascade foothills, covered with pine and fir forests.

The headwaters of the Klickitat receive moderate precipitation, much in the form of snow, while the rest of the river borders the semi-arid zone of eastern Washington. The

lower portion of the river receives 15 to 20 inches of precipitation annually, compared to over 60 in the upper reaches. Only two to six inches of this falls during the summer. The climate is classified as temperate, with summer temperatures approaching 90 degrees and winter temperatures often below freezing. This contrasts starkly with areas to the immediate west, which receive over 80 inches of precipitation and have much less fluctuation in temperature.

The Klickitat's major tributary, Big Muddy Creek, flows from the snow-covered flanks of Mt. Adams, at 12,307' the second highest volcano in the Cascades. River flow, directly related to climatic conditions, varies considerably. In the spring the river is a torrent, while flows drop dramatically with the coming of summer. Fall and winter precipitation bring the river up somewhat but not nearly to the level of spring runoff. Even with this fluctuation, snow melt from the headwaters, augmented by springs, keeps the river at a level that makes boating and fishing possible year-round.

At the upper end of the designated segment near Wheeler Canyon and the small community of Pitt, the river flows through a broad canyon. The side slopes are a patchwork of oak groves, bunchgrass fields, and rock cliffs, dotted with stands of ponderosa pine. As the river drops toward the Columbia at a steady gradient of about 26 feet per mile, the canyon tightens and small rapids spike the channel. Highway 142 winds closely along the river's east bank, sometimes adjacent the river and sometimes up to 100 yards away, with riparian vegetation obscuring many views of the river. The railroad tracks parallel the river on the west bank. Occasional cleared fields and small clusters of residences are scattered along the roadside. (see figure 3-1)

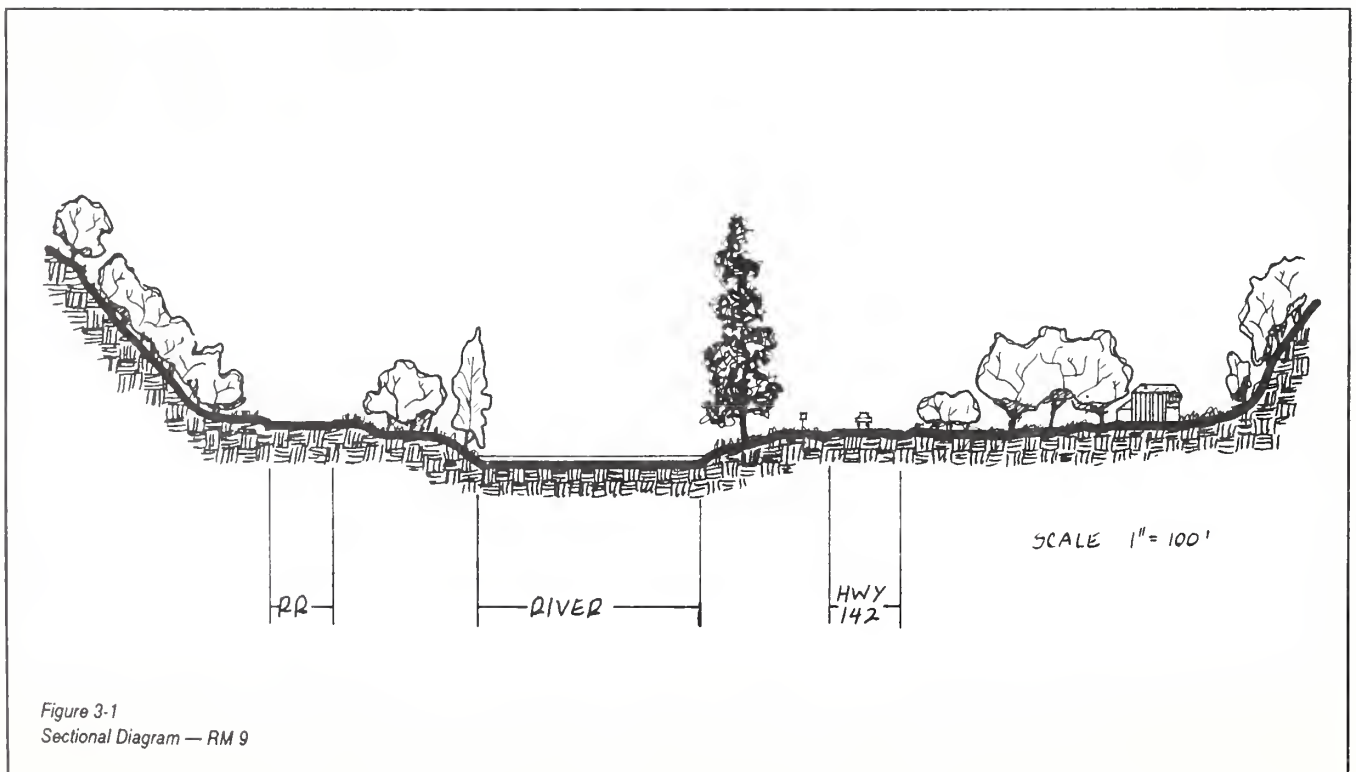
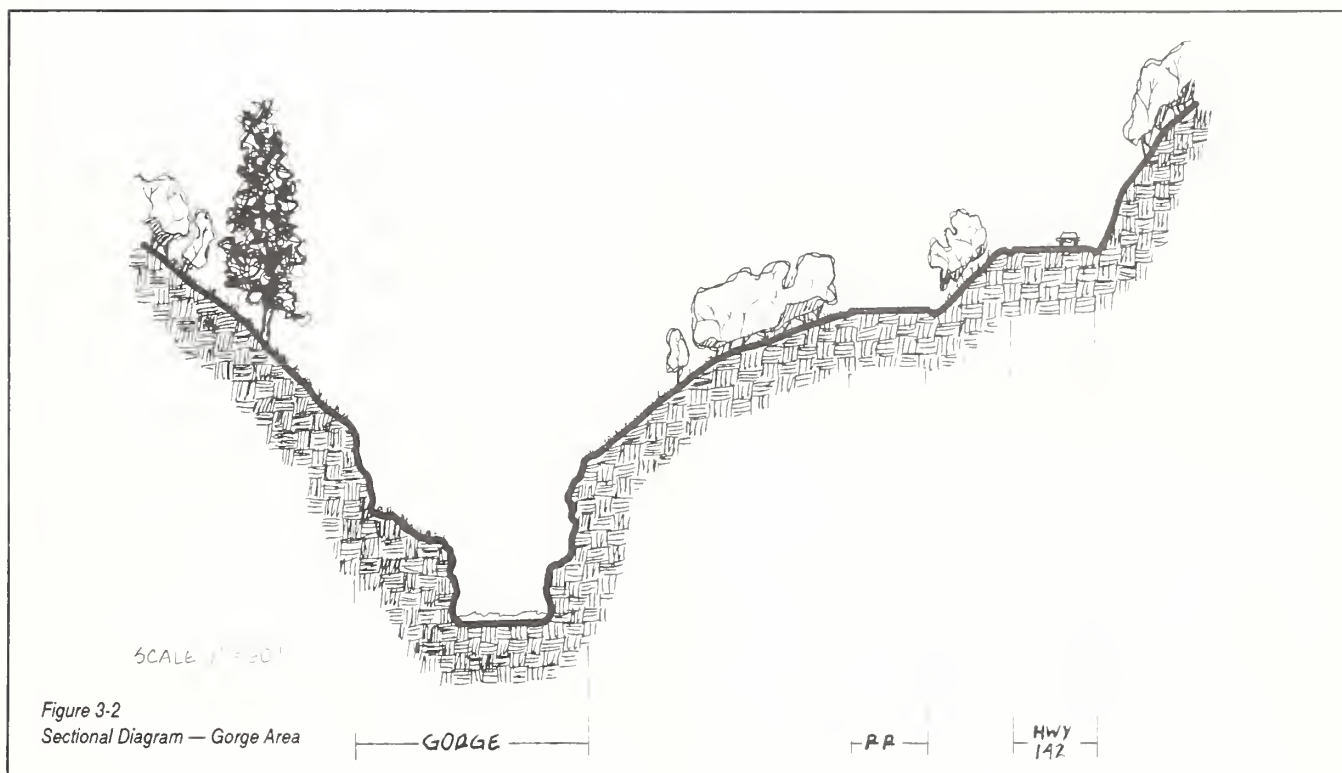


Figure 3-1
Sectional Diagram — RM 9

At about RM 2.5, the Klickitat drops into a tight, rock-walled gorge (see figure 3-2). The water cascades and crashes through the rocky channel where Native Americans continue to use the dip netting process employed for generations to catch salmon and steelhead. The fish ladder and a parking area are on the west bank just where the water pools above the first falls in the gorge. In the next mile, dip-net fishing platforms are suspended from the gorge walls. Several informal pullouts provide the opportunity to view this remarkable gorge, which also can be seen from a bridge providing access to the west bank in the Fisher Hill area near the bottom of the gorge.⁵ At about RM 1 the river slows down, though still confined between steep canyon walls, and flows gently for a brief section before entering the Columbia.

culture of central Washington and Oregon. These groups established elaborate cultures known for intricate basketry and advanced fishing techniques, as well as highly evolved religious and social structures. The river itself was named for the people who lived at its mouth near the present town of Lyle. This village represented the western edge of the territory utilized by the Klickitat people.

While Native Americans were largely displaced by European settlers and the gradual decline of the fisheries, people of both Wishram and Klickitat ancestry continue to make use of the river for subsistence and for social and religious purposes. Today the Klickitat and Wishram Indian bands are affiliated with the Confederated Tribes and Bands of the Yakima Indian Nation.



3.2 History

Archaeologic evidence suggests that people have inhabited the Columbia River and plateau for over 10,000 years. The Klickitat River area offered a host of advantages, including favorable climate, abundant food sources such as salmon and big game, and trading opportunities resulting from the Columbia. Early inhabitants, like those of later times, tended to concentrate their use in areas with suitable terrain and access. The river's confluence with the Columbia River was one such place, offering mild slopes, protection from the elements, and ready access to hunting and fishing sites.

In historic times, two Native American groups inhabited the Klickitat River area: the Wishram, who typically settled near the Columbia River; and the Klickitat, whose territory covered much of the drainage. Both belonged to the larger plateau

The Lewis and Clark expedition was the first official European exploration of the Klickitat area. The Klickitat is mentioned in the expedition journals (referred to as the "Caterack River"), but the expedition did not travel far upstream.

European settlement of the area commenced with the opening of the Oregon Trail and intensified with the coming of the railroad and improved river transportation. The influx of non-Indian settlers also was heavily influenced by the Donation Land Act of 1850, which allowed citizens to obtain 320 acres of land from the public domain. Most of the settlers chose to settle to the west in White Salmon and Hood River, where timber was readily accessible and lands better suited to

5. In this document, "the gorge" refers to this section of the Klickitat, not to the Columbia River Gorge.

agriculture. Early land use activities in the lower Klickitat River corridor included agriculture, ranching, river transportation and logging. Ranches were established along the river, especially in areas close to the Columbia. Wood-burning, sternwheel boats transporting people and goods to settlements along the Columbia reached their peak in the 1850's and 1860's.

The town of Lyle was so named because it was founded on land purchased by J.O. Lyle in 1878. Perhaps the first land speculator in the area, Mr. Lyle platted the town. Small businesses were started to serve the river trade. The major impetus for the continued growth of Lyle was the construction of the Columbia River and Northern Railroad in 1902, which terminated at the town. Lyle became the most important port in Klickitat County.

In the early 20th Century, more extensive use of the area for timber harvest, ranching, and recreation was made possible with the development of public roadways and railroads linking Lyle, Goldendale, and Glenwood. Yet even with this increased access, the steep slopes along the river prevented all but the most modest of developments. As a result, the river corridor today retains many of the natural qualities viewed by early Native Americans, trappers, and settlers.

3.3 Land Ownership Patterns

Of the approximately 4,800 acres within the designated boundaries, 67 percent is owned by private individuals (*see Map 3-1*). About 100 parcels are privately owned, ranging in size from an acre to more than 200 acres. State agencies own 1,100 acres, or 28 percent of the total acreage, and federal agencies 200 acres. Of the state lands, the Washington Department of Natural Resources (DNR) manages 200 acres as public trust lands and the Washington Department of Fisheries (WDF) owns most of the land along the gorge. An additional five percent, mostly along the gorge, consists of Native American trust lands. The remaining lands in the corridor are three small parcels owned by Klickitat County or the North Dalles Irrigation District.

Based on findings of navigability, the federal government owns the bed and banks (to the ordinary high water line) of the Klickitat from its mouth to the top of the Bonneville pool, about a mile upriver from the Columbia (Winther, 1990). Washington State owns the bed and banks (to the median high-water line) from this point upriver to the Leidl Bridge area, well above the designated segment (Thomas, 1990).

3.4 Land Uses

Two thirds of the river corridor is forested (*see Map 3-2*). The remainder is mostly rangeland, occupying one quarter of the land, and hayfield/pasture, rockland, and residential housing, each occupying about three percent of the corridor. Residences occur in small clusters in a half dozen locations along the river bottom where development has been feasible.

Timber Harvest. Forested areas consist of Oregon white oak/bunchgrass stands with occasional pockets of ponderosa pine. Of the 3,200 acres of woodland, about 700 are on land owned by the Washington Department of Fisheries or the Washington Department of Wildlife and would likely not be available for timber harvest. The other 2,500 acres are located on private, Indian or DNR lands and could potentially be harvested. The vast majority of this acreage is located on rugged terrain and consists of tree species of low economic value (oak) and small diameter.

Based on slope, timber, and land ownership, four areas totalling about 200 acres contain timber that could be considered commercially attractive (using an estimate of 20 mbf/acre, about 4 mmbf could be harvested). Three stands of mature ponderosa pine, located on gentle slopes next to the river at RM 4.2, RM 6.5, and RM 8, contain ponderosa pine and some oak that could be logged from the railroad or by helicopter. The fourth is an upslope area at RM 10.6 that has seen recent harvest activity—a small clearcut logged via roads on steep side slopes. This area presents the only obvious evidence of commercial timber harvest activity in the corridor. Other areas dispersed throughout the corridor have mature stands of oak that could be harvested for firewood.

Grazing. About six ranchers graze a total of 400 to 500 cows on both sides of the river. Much of the use is in the spring only, on land owned or leased by ranchers. Assuming that cows access the river corridor about four months per year, this would mean about 1,800 animal unit months (AUM) of use.⁶ Some of the rangeland is fenced to keep cows away from the state highway, railroad tracks and river during spring flood. Side creeks provide the main source of livestock water (Kreft, 1990). Grazing use levels were higher twenty years ago, but dropped considerably due to changing agricultural economics and the loss of rangeland due subdivision of lands within the corridor (Kreft, 1990).

Residential Use. There are about 55 houses within the corridor. Existing residential development is limited to a few locations, mostly in four clusters of structures built on mildly sloping benches above the 100-year floodplain (although a few structures exist within the floodplain). The community of Pitt is the largest of these clusters, with 11 houses. The east corridor boundary skirts the west side of the town of Lyle near the mouth of the Klickitat.

Regional demand for housing is increasing due in part to the boom-town atmosphere spurred by windsurfing in the greater Hood River area. In addition, regulations on residential construction in some portions of the CRGNSA may increase housing pressure in lands outside the CRGNSA boundaries. Gross housing sales volume in the Hood River/White Salmon vicinity increased from \$15 million in 1986 to \$45 million in 1989 (Darby, 1990). View properties on both sides of the

6. An animal unit month (AUM) consists of 1 cow or 5 sheep using an area for one month.



One of many gently rolling benches along the river; State Highway 142 parallels the east bank along this section (view north from about RM 2.5).

Columbia near Hood River have at least doubled in value in the last two and a half years (Darby, 1990). The Klickitat County Assessor estimated that 1989 assessed valuations in one area of the White Salmon River increased an average of 30% on improvements and 75% on land since 1985, with property along the river increasing the most (Shipp, 1989).

This phenomenon has begun to extend as far eastward as the Klickitat River valley. Some land and improvements in Lyle, at the mouth of the Klickitat, have increased approximately 30% in value over the last four years, with selected view lots perhaps doubling in value (Shipp, 1989). A number of houses in the town of Klickitat, (located at RM 13.5, three miles upstream of the lower Klickitat segment), were purchased recently by an out-of-county investor (Shipp, 1989). However, residential development in the river corridor will continue to be constrained by the limited supply of suitable building sites due to steep topography, areas prone to flooding, and poor road access to the west side of the river.

River Access and Cultural Sites. The corridor contains two undeveloped county park/river access sites and a Washington Department of Wildlife access site. Undeveloped access sites on public and private lands occur along Highway 142 at several locations (see Section 3.7 for a detailed description of recreational sites and uses in the corridor). The gorge area contains a fish ladder at RM 2.5 and scaffolding for dip-net fishing in several locations.

Transportation Routes. State Highway 142 and Burlington Northern railroad tracks parallel the river for the segment's length. Both are situated on the east rim high above the river from the mouth to the Fisher Hill bridge at RM 1.8, where an improved road bridges the gorge, as does the Burlington Northern rail line. From this point on, the road and

railroad bracket the river in close proximity for the length of the segment. The highway bridges the river at RM 10.3 to join the railroad on the west side of the river for the upper 1/2 mile of the segment.

Four unimproved (dirt) roads and several short improved (paved or graveled) roads also provide access within the corridor. Bridges include two at the mouth (one for highway 14, one for the Burlington Northern mainline), the two at Fisher Hill (one for road and one for rail), one at Pitt, and a footbridge at RM 7.0. Another footbridge crosses the river at about RM 1.6, where a network of trails provides access to both banks from either the Fisher Hill bridge area or a gravel parking area on a shoulder of Highway 142 near RM 1.1.

3.5 Land Use Controls and Regulations

Many county, state and federal laws and programs affect land uses within the river corridor. These are the existing tools available to governments to meet desired social objectives, including resource conservation. The principal mechanisms



The road and railroad parallel the river on the east bank for the lower 1.5 miles of the segment (view north, about RM 1).

include county zoning, the Columbia River Gorge National Scenic Area management plan, the Shorelines Master Plan, floodplain regulations, building and health codes, the state Forest Practices Act, state Hydraulic Code, and current tax use laws.

Zoning. The County has zoned most of the lower Klickitat River corridor as Open Space (see Map 3-3). The purpose of this zoning district is to provide for permanent open space and to limit development in areas where the costs of providing county services would be excessive. Uses allowed outright include single family dwellings (with a 20-acre minimum lot size), agriculture, timber harvest, conservation preserves, recreational developments, and planned unit developments (upon approval).

Much of the upper mile of the segment is zoned Rural Residential. Its purpose is to maintain openness and the rural character of the countryside, to protect the county's water and other natural resources, and to provide areas which are appropriate for typical rural development of all kinds. Uses allowed outright include single family homes (with a 2-acre minimum lot size), agriculture, timber harvest, planned unit developments and home occupations.

The area surrounding but not including the community of Lyle is zoned General Rural. Regulations for lands in this district are similar to those of the Rural Residential district, except that single family homes must have a 5-acre minimum lot size.

The unincorporated town of Lyle within the river corridor is zoned Residential. The purpose of this district is to provide areas of higher density residential development where community water and sewer systems are available. Uses allowed outright include single family housing, duplexes, mobile homes (provided certain criteria are met), mobile home parks and home occupations. Because Lyle has a community sewer system, the minimum lot size is 6,000 square feet.

The county has procedures for making exceptions to zoning regulations, in the form of conditional uses or variances, and for changing them through rezoning. Conditional uses are activities not specifically permitted outright within a zoning district but which may be granted a land use permit. Barring strong local objections, conditional uses usually are granted (Kunz, 1990). Variances to the zoning ordinance may be granted for hardship caused by the physical qualities of a piece of property. Unlike conditional uses and variances, zone changes (rezones) are changes to the law which must be acted upon by the county legislative authority (the Board of County Commissioners).

Columbia River Gorge National Scenic Area. The lower 1.5 miles of the Klickitat River, included within the Columbia River Gorge National Scenic Area (CRGNSA), are subject to its provisions (see Box 3-1). The portion of the corridor located within the CRGNSA is a

General Management Area except for the lower 1/4 mile of river at town of Lyle, which is designated an Urban Area.

The CRGNSA is in the process of developing land use plans for the Scenic Area. Counties are bound by the CRGNSA legislation to adopt ordinances in conformance with the CRGNSA plans. With the exception of the Urban Area at Lyle, existing county zoning within the CRGNSA is likely to change.

General Management Areas are divided into numerous zoning districts. Almost all of the Klickitat Wild and Scenic River corridor within the CRGNSA boundary is proposed for open space zoning, which differs from the county's definition and management of open space. This zone would allow no new residential or commercial development and would greatly restrict other uses, but forest practices would not be regulated. As with standard zoning, variances may be granted to individual landowners in hardship cases.

Three other zones, all about four to seven acres each, are proposed for the portion of the CRGNSA that lies within the river corridor boundaries: a medium-density recreation zone at the county park; a residential zone adjacent the urban area; and an area just north of the residential zone which will be designated either commercial recreation or residential. The medium-density recreation zone would allow parking for up to 50 cars and would allow some recreation facilities. The residential zone was proposed to acknowledge existing development outside of the Urban Area. The commercial recreation zone was initially proposed in response to a request for developing a campground to accommodate tents and RVs. However, this development currently is not scheduled to take place and the Commission is considering zoning the area for residential use (Litt, 1990).

Under proposed CRGNSA regulations, all new development within the Gorge boundaries visible from key viewing areas would have to be visually subordinate to its landscape setting. Development not visible from these areas would have to be compatible with its landscape setting. Much of the lower Klickitat corridor within the CRGNSA (especially the west slope) is visible from the Rowena plateau, a key viewing area. The Gorge Commission is considering adding the Klickitat River and Highway 142 to the list of key viewing areas (Johnson, 1990).

Shorelines Master Plan. In accordance with the Washington State Shoreline Management Act of 1971 (RCW 90.58), Klickitat County developed a Shoreline Master Plan (SMP) "to protect shoreline areas against poor management and destructive usage." The Shorelines Master Plan creates a zoning overlay for the non-federal land area along streams whose mean annual flow exceeds 20 cfs. The overlay extends laterally 200 horizontal feet from the waterway, and may also include contiguous wetlands. Shorelines areas are divided into environmental zones (called "environments" in the Act), which specify land uses that are allowable, conditional or

**Box
3-1****Columbia River Gorge
National Scenic Area.**

On November 17, 1986, President Reagan signed into law an act creating the 253,500-acre CRGNSA, extending on both sides of the Columbia River between the mouth of the Deschutes and Troutdale, OR. The CRGNSA was established for two purposes: "1) to protect and provide for the enhancement of the scenic, cultural, recreational, and natural resources of the Columbia River Gorge; and 2) to protect and support the economy of the Columbia River Gorge area by encouraging growth to occur in existing Urban Areas and by allowing future economic development in a manner consistent with the first purpose" (Section 3, Public Law 99-663).

The Act called for a new partnership among the Forest Service, the States of Washington and Oregon, and local counties. It also created a citizens' bi-state commission, known as the Gorge Commission, to coordinate land uses and management plan development.

The act created three types of management areas within the gorge: Urban Areas, General Management Areas, and Special Management Areas. The Commission has the responsibility to oversee the 144,700 acres of General Management Areas, in which most existing uses and activities are allowed except for new industrial development. The Forest Service is responsible for the 112,300 acres of Special Management Areas, which are environmentally or visually sensitive lands on which uses and activities are more restricted. The 28,000 acres of Urban Areas, exempt from Gorge Act land use controls, are the focus of most economic development activities.

Final interim guidelines for the management of CRGNSA lands have been adopted and approved (CRGNSA June, 1987). These guidelines will remain in effect until the final Management Plan is developed and approved by the fall of 1990.

prohibited. When regulations of shoreline zoning conflict with those of the underlying zoning, the more restrictive applies.

In March, 1990, a revision of the SMP was approved by the Board of County Commissioners. The revised plan is now being reviewed by the Washington Department of Ecology (DOE). Once approved by the DOE and adopted by the

County, it will remain in force for two years, when the County will conduct its next scheduled update.

Under the revised SMP, most of the lower Klickitat shoreline falls in the Conservancy Environment, which is characterized by very low intensity land uses primarily related to natural resource use, relatively low land values, minor capital investment and relatively major biophysical limitations. Its objective is to balance sustained yield natural resource utilization with low density recreational uses.

Within a Conservancy Environment, residential development is allowed, but must be set back 100 feet from the river, and only one residence is allowed per 660 feet of river (this frontage requirement applies only to new land divisions). Agriculture is limited to practices such as non-intensive grazing and commercial development is prohibited. Timber harvest is limited to 30 percent of the merchantable stems every 10 years.

The east bank of the lower 1/2 mile of the river, near the town of Lyle, is designated a Community environment. This environment is characterized by moderate to high intensity land use, including residential, commercial and industrial development. Most land uses are allowed, with restrictions. As described above, this environment may change as a response to CRGNSA land use plans.

Under the proposed revision, a Natural Buffer Zone is superimposed on the previous two environments. It consists of a 50-foot strip (measured horizontally) from each riverbank. Its purpose is to preserve the structure, function and aesthetic qualities of the natural riparian ecosystem. Most land uses are prohibited; non-intensive grazing, signs, and recreational trails (with a conditional use permit) are allowed. One harvest of 30 percent of the merchantable stems within the next ten years, after which further timber harvest is prohibited. At a public meeting held by the Washington Department of Ecology (DOE) on May 22, 1990, many people opposed the 50-foot buffer.

The county planner serves as the shorelines administrator, but no county employee is assigned the regular duty of monitoring compliance with shorelines provisions. During the past two years in Klickitat County, 12 violations have occurred and been acted on by the county, all resulting from complaints by neighbors, Forest Service employees, or recreation visitors (Kunz, 1990).

Floodplain Management Ordinance. The county restricts development within a defined floodway (the area which commonly receives floodwaters) and the 100-year floodplain to minimize public and private losses due to floods. The ordinance requires that the lowest level of new residential construction must be above the base flood (100-year) level, and that new non-residential construction be flood-proofed below the base flood level. It also prohibits new residential construction in the floodway. Some of the lower Klickitat

River valley bottom lies within the 100-year floodplain as defined on Federal Emergency Management Agency (FEMA) maps.

Building Code. The county requires landowners to obtain building permits to erect permanent structures in the county, and placement permits for trailers occupied more than 60 days a year. These permits are routed through other county offices, including the planning office, and provide one mechanism of monitoring compliance with zoning ordinances. Farm buildings can be erected with an agricultural permit rather than a standard building permit if the structure is built solely by the owner and is at least 100' from property lines. Structures built under an agricultural permit do not have to meet the Uniform Building Code, which sets minimum construction standards and generally precludes trailers (Grimes, 1989).

The building department does not issue permits for construction on slopes considered too steep (usually about 50 percent, depending on soils) without engineering data assuring adequate erosion abatement and slope stabilization (see Map 3-4).

County Health Code. The county regulates location of septic systems to control the quality of ground and surface waters. A septic permit is required and septic tanks must be 50' from a watercourse with drainfields set back 100'. Generally, drainfields are not permitted in areas with soils that are either too slowly permeable or excessively permeable, where the water table is within 5 feet of the surface, where slopes are greater than 15 percent, or where surface water drains over the site. Septic systems are allowed within the 100-year floodplain if floodwater infiltration into the system and sewage escapement into floodwaters is minimized.

Forest Practices Act. Administered by the Department of Natural Resources (DNR), the Washington State Forest Practices Act applies to non-federal lands. The law regulates timber harvesting and associated practices to allow timber production while providing fish and wildlife habitat. Particular attention is paid to lands adjacent rivers (riparian management zones), in which a certain number of snags and live conifers and hardwoods must be left for riparian functioning. These buffer requirements must be applied in conjunction with the Shorelines Management Act buffer requirements. Unless the area is to be converted to other uses, site preparation is required following a regeneration harvest, as is reforestation if the harvest exceeds a partial cut of 50% within 5 years. In shoreline areas logging is restricted to 30% of the stand every ten years; natural regeneration is expected to be sufficient in these areas.

The Act defines four classes of forest practices. Most timber harvest activities on the lower Klickitat would be Class III practices, which require a Forest Practices Permit but no State Environmental Policy Act (SEPA) review.

In 1986, the Forest Practices rules and regulations were amended to include provisions in the newly developed Timber Fish and Wildlife Agreement (T/F/W). Resulting from intensive meetings between state agencies, Indian tribes, environmental and timber interests, the T/F/W Agreement made recommendations for improving management of forest resources for timber, fish, wildlife, water quality and quantity, and cultural values. Statutes, regulations and management procedures were amended to implement these recommendations.

The Forest Practices Act calls for coordination with other laws and programs, particularly the hydraulic project review process and the Shorelines Management Act. The DNR has agreed to route Forest Practice Permit applications for lands within shorelines through the county prior to issuance of permits (Havercroft, 1990).

State Hydraulic Code. Administered by the Washington Department of Wildlife (WDW), a hydraulics project approval (HPA) is required for any work that will "use, divert, obstruct or change the natural flow or bed" of all state waters. The code applies to all work to be performed below the ordinary high water line. To date, few HPAs have been applied for on the Klickitat River (Zimmerman, 1989).



Highway provides open view of the river for much of the segment. Gabion protecting roadway is visible at lower right (view upstream from Highway 142 near RM 5).

While the code applies to most any type of activity that may take place within the wetted perimeter of waterways, protection of fish life is the only ground upon which approval can be conditioned or denied. The WDW strongly encourages non-structural solutions to bank protection problems, such as willow waddling, log emplacement, and upstream pool construction to slow flows. It also considers the cumulative impacts of successive HPA permits, particularly regarding stream channelization (Zimmerman, 1989).

Forest Practices permits and Shorelines Substantial Development permits are routed through the WDW when activities are proposed within the wetted perimeter of streams. The WDW does not routinely notify the County Planning Department about HPAs, although the county, under the SMP, could require mitigation for impacts other than those to fish life.

State Water Quality Standards. The state of Washington, as guided by the Water Pollution Control Act and the Water Resources Act of 1971, has a policy that no surface water degradation be allowed on National Wild and Scenic rivers. This policy could have effects on existing and potential land use activities.

Herbicide application is regulated by the Washington State Water Pollution Control Act (RCW 90.48) and state water quality standards as defined in the Washington Annotated Code (WAC 173-201). The Washington Department of Transportation (DOT) controls vegetation within its rights-of-way by applying herbicides and by physically removing vegetation. In the spring and fall, herbicides are sprayed onto the road shoulder and into the ditch across the highway from the river. DOT applications are monitored by the Washington Department of Ecology and the federal Department of Environmental Quality.

The DOT cuts vegetation within the right-of-way growing farther from the road to maintain a safe line-of-sight for highway traffic. Vegetation usually is not removed entirely. Alder and maple that seed into gabions are removed to prolong the life of the gabions.

Current Use Assessment.

Although not county land use controls per se, two state laws have a significant effect on land use in the county. The Timber Tax Act of 1971 (RCW 84.33) addresses large commercial forest land holdings and the Open Space Tax Act (RCW 84.34) addresses smaller timbered parcels, agricultural lands and open space. The laws are designed to preserve agricultural land, forestland, and open space in the state by offering preferred property tax rates to owners of qualifying lands. Some

of the private commercial timber land and agricultural land along the lower Klickitat is enrolled in one of the current use tax programs

Current use values for agricultural and forest lands are developed by factoring in crop values, production costs, loan rates and property tax rates. Potential uses of lands are not considered when establishing their current use tax rate, nor are values of neighboring properties not in the current use tax program. Open space valuation is not well developed in the county. The only existing guideline is that it cannot be less than the value of the land if it were used for agriculture. A public benefit rating system would help guide the county assessor; such rating systems are being used by other counties in Washington but not presently in Klickitat County (Shipp, 1989). There are property tax penalties for removing lands from either program, except in special instances such as transferring land to a governmental entity.

3.6 Socioeconomics

Population. Klickitat County is rural; of an estimated 1988 population of 16,600 people, 61 percent live in unincorporated areas. Population growth has slowed significantly since the 1970-80 growth rate of 30.4 percent (3 percent annually), to only 4.9 percent for 1980-88 (0.6 percent annually). One component of population change for 1980 to 1988 is a net out-migration of about 200 people. In comparison, the Washington population level increased 10.5 percent (1.3 percent annually) for the 1980 to 1988 period.

The county is expected to experience negligible growth through the end of the century. Population forecasts show that the county is estimated to have a population of 16,781 for 1990; 16,935 for 1995; and 17,084 for 2000 (Washington Office of Financial Management 1989). However, the



View of Pitt from Highway 142 bridge near RM 10.

portions of the county along rivers, including the Klickitat and Columbia, would be expected to have much higher rates of population increase.

The population of Lyle, an unincorporated town located at the mouth of the Klickitat, is about 900. About 800 people live in the unincorporated town of Klickitat, located about eight miles below the Little Klickitat River, and about 600 people live in Glenwood, the other unincorporated town closest to the study corridor.

There are three incorporated cities in the county. Goldendale, the county seat and largest city in the county, had an estimated 1988 population of 3,730. Bingen and White Salmon are closer to the White Salmon River than to the Klickitat. Bingen has had a stable population for the past 18 years with a population ranging from 665 to 679 people. However, White

Salmon has had an annual growth rate of 1.7 percent for both the 1970-80 and 1980-88 periods (Washington Office of Financial Management 1982, 1989). Demographic data show that Klickitat County had a slightly older population and larger households than the State in 1980 (U.S. Bureau of the Census 1982a). The County had a median age of 30.3 years and average of 2.73 people/household, compared to 29.8 years and 2.61 people/household for Washington. The County had a larger proportion of Native Americans than the State (2.95 percent versus 1.54 percent).

Economy. Klickitat County has historically had one of the highest unemployment rates in the state, but has followed national and state trends by decreasing its average annual unemployment rate from 17 percent in 1980 to 13 percent in 1988. Three industrial sectors employ a significant proportion of the labor force (*see Table 3-1*); manufacturing accounted

TABLE 3-1
AVERAGE ANNUAL EMPLOYMENT
(16 YEARS OLD AND OLDER), BY INDUSTRIAL SECTOR

Industrial Sector	Number/(Percent) ¹			
	1980		1988	
Agriculture	534	(9.4)	1,100	(16.5)
Forestry and Fishing	146	(2.6)	—	—
Mining	28	(0.5)	— ^{2/}	—
Construction	494	(8.7)	120 ^{2/}	(1.8)
Manufacturing	1,241	(21.8)	1,550	(23.3)
Transportation, Communications and Public Utilities	457	(8.0)	250	(3.8)
Wholesale Trade	162	(2.8)	640 ^{3/}	(9.6)
Retail Trade	750	(13.2)	— ^{3/}	—
Finance, Insurance, and Real Estate	151	(2.6)	100	(1.5)
Services	426	(7.5)	490	(7.4)
Government	1,311	(23.0)	1,290	(19.4)
TOTAL LABOR FORCE	6,890		7,630	
TOTAL EMPLOYED	5,700	(82.7)	6,650	(87.2)
TOTAL UNEMPLOYED	1,190	(17.3)	980	(12.8)

^{1/}Blanks indicate data were not available.

^{2/}Employment in the construction and mining sectors were combined.

^{3/}Employment in the wholesale and retail trade sectors were combined.

Sources: U.S. Bureau of the Census (1982b); Cole (1989)

for 23 percent of employment in Klickitat County, followed by 19.4 percent in government and 16.5 percent in agriculture (Cole 1989). Only the proportion of people employed in the agricultural and manufacturing sectors increased from 1980 to 1988. People living in the Klickitat River area typically work in agriculture or timber, or commute to jobs in the Dalles or Hood River.

Income levels for Klickitat County and Goldendale have continually been less than those for Washington state. Klickitat County had a 1987 estimated median household income of \$21,400 and a 1986 per capita income of \$12,893, compared to \$27,600 and \$15,009, respectively, for the State of Washington. These figures represent a 22 percent lower median household and 14 percent lower per capita income for the County.

Klickitat County had a total of \$24.1 million in general county expenditures in 1981-82 (U.S. Bureau of the Census 1988), including 45.1 percent for education, 13.3 percent for health and hospitals, 11.8 percent for highways, 3.8 percent for police protection, and 26 percent for unknown expenses. The County had an outstanding debt of \$16.5 million or \$1,004 per capita in 1981-82.

The county bookkeeping system did not provide a convenient means for obtaining current fiscal revenue and expenditure information. In general, the County was characterized as having to carefully budget and evaluate its resources each year because of the limited economic base and revenues collected (Klickitat County Assessor's Office 1989).

The median value of 6,498 housing units in the County in 1980 was \$39,500. This was far less than the State median house value of \$60,700. In 1982, the average value of the 575 farms was \$587,100 and land was valued at an average \$482 per acre (U.S. Bureau of the Census 1988). Several property levy tax rates apply to lands in the study areas. Property tax levy rates generally are between \$14 and \$17 per \$1,000 of assessed property value (Klickitat County Assessor's Office 1989).

3.7 Recreation Opportunities and Public Access

The lower Klickitat offers a spectrum of recreation, ranging from semi-primitive non-motorized to rural opportunities (*see Box 3-2*). Boating, fishing, hunting,

Box 3-2

Recreation Opportunity Spectrum

The Forest Service and other agencies use the Recreation Opportunity Spectrum (ROS) framework to characterize outdoor recreation settings (places people go for recreation) based on such characteristics as access, naturalness, likelihood of encounters with other visitors, level and type of facilities and management regulations, and evidence of past recreational use. The ROS contains a range of opportunity classes: primitive, semi-primitive non-motorized; semi-primitive motorized; roaded natural; roaded modified; rural; and urban. Following are descriptions of the classes referred to in the text.

Semi-Primitive Nonmotorized. Some opportunities for isolation from the sights and sounds of people in a predominantly unmodified natural environment of moderate size. Concentration of users is low but there is often evidence of use. Spacing of groups may be formalized to disperse use and limit contact. Area management occasionally uses onsite controls (such as signs or self-registration boxes) but they are subtle and limited. Facilities are provided for the protection of the resource and for the safety of users only. Activities are nonmotorized and similar to those present under the primitive category, but use levels may be higher.

Semi-Primitive Motorized. Opportunities for isolation from the sights and sounds of people may not be generally available. The area is predominantly unmodified natural environment but with motorized access. Concentration of users is low to moderate with occasional to regular contact with other groups. Area management may utilize on-site controls and restrictions. Resource modification may be evident but should harmonize with the environment, and rustic facilities and developments may be provided for resource protection and user safety as well as for user convenience. While activities listed under the previous classes are possible, so are mechanized and motorized activities such as off-road vehicle use, motorboating, and auto touring.

Rural. Opportunities to experience affiliation with individuals and groups are prevalent in a substantially modified natural environment. Sights and sounds of people are readily evident and concentration of users is often moderate to high. On-site controls and direct management techniques predominate, and resource modification and utilization practices are obvious. Access and facilities are designed for high levels of use and are developed for the convenience of users. Facilities for intensive motorized use are available. All activities listed previously are possible, as well as spectator sports, outdoor concerts, recreational vehicle camps, and modern resorts.

nature study, camping, picnicking, sightseeing and other activities are popular in the scenic and accessible river canyon (U.S.D.A. Forest Service, 1989). Recreational use occurs throughout the year with fishing, hunting and day use (sightseeing, picnicking etc.) primary activities in the spring, summer and fall. Commercial use of the river currently is very low, consisting of a few fishing guides. The heaviest recreational use along the river is bank and boat fishing for anadromous as well as resident fish. The Klickitat and Deschutes are the only rivers in the region which are runnable year-round in open drift boats and offer exceptional opportunities for fishing.

Fishing for steelhead and spring chinook salmon, is especially popular along the lower two miles of river (Wright, 1989; Ramsey et al., 1989). The river is considered one of the better rivers in Washington for fishing for steelhead; the WDW 1986 steelhead catch estimate ranked the Klickitat in the top 20 streams of the state. It is also one of the few rivers in the state with natural runs of spring chinook (Wright, 1989). Fishing for resident fish such as rainbow trout primarily occurs above the gorge from RM 3 to RM 11 and above (Weinheimer, 1989).

Bank fishing is the primary use because access for drift boats is limited and difficult. Motorized boating occurs near the river's mouth where the waters of the Bonneville pool back the river up about

one mile. Anglers can launch boats at Columbia River boat ramps near Lyle and motor up the Klickitat. Upstream from this point, swifter currents and rocky stretches pose a barrier to outboard motor use. Little motorized use occurs above the gorge section, although motorized craft have been used during the spring chinook season.

The river also is used by boaters who are not fishing; the relatively calm Class I-II water (see Box 3-3) provides excellent opportunities for canoeing and drift boating upstream from the gorge section. There are reports of people



Pooled water extends nearly one mile upstream, providing excellent opportunities for motorboating in the scenic river canyon (view north from Highway 14 bridge).

Box 3-3

Whitewater Rating System

Class I is easily run whitewater consisting of moving water with riffles and small waves. Passages are clear with few or no obstructions, and little maneuvering is required.

Class II consists of rapids of moderate difficulty with waves up to three feet. The river channel has wide, clear passages and occasional obstructions requiring some maneuvering. Scouting usually is not required.

Class III is difficult whitewater containing numerous high and irregular waves. Channel with narrow passages and numerous obstructions (rocks and eddies), may require complex maneuvering. Scouting is usually needed.

Class IV is very difficult whitewater, typically consisting of long, continuous rapids with powerful and irregular waves. The river channel is obstructed with dangerous rocks and boiling eddies and passages are constricted, requiring powerful and precise maneuvering. Scouting is mandatory.

Class V rapids are extremely difficult whitewater, consisting of very long and violent rapids following each other almost without interruption. The channel is highly obstructed with big drops, rocks, and large, chaotic waves, requiring very precise maneuvering. Scouting and close study is essential but often difficult, and the consequences of an unsuccessful run may be severe.

Class VI whitewater, considered unrunnable by most standards, is extraordinarily difficult rapids or falls—Class V water carried to extremes of navigability that would involve substantial hazard to life.

running the gorge itself, but this probably has been done only a handful of times. The gorge section would be rated Class IV and contains drops that could rate higher, especially during high flows. Any boating use has great potential to conflict with Native American dip-net fishing.

Many opportunities exist in the corridor for sightseeing, photography, and other activities focusing on the relatively undeveloped landscape. Highway 142 is promoted as part of a scenic drive loop for Klickitat County, drawing visitors from the Columbia Gorge area. It is one of two places in the region where native fishermen can be observed using traditional dip net fishing methods, although there is not an overlook area designed for this purpose or any attempt to let people know more about dip-net fishing. The lower mile of the river provides local residents and area visitors with calmer water suitable for motorboating, deep pools for swimming, and good bank access for salmon and steelhead fishing.

Access and Facilities. Several sites are used for public access and recreation (*see Table 3-2*); two of these sites

are on private land and use currently is allowed by the landowners. Highway 142, which parallels the river throughout the segment, provides river access along much of the segment. People pull off the road at one of the many places where the gravel shoulder is wide enough, and walk down the bank to the water's edge.

A highway pulloff at RM 1.1, about 1/2 mile downstream from the Fisher Hill bridge, provides access to the river via a well-used trail that cuts across the railroad tracks and switchbacks down to the water's edge. The water is calm, but the river still flows through a rocky gorge where visitors can scramble along a wide, rocky bench next to deep, green pools of water. A primitive wood footbridge provides access to the opposite shore, where trails lead up and downstream. The area is used by salmon and steelhead anglers, sightseers who know about the unmarked trailhead, and other people who just want to be by the river. This area is downstream from the Native American dip-net fishing sites. No facilities are provided, although the state of Washington has a sign next to the railroad tracks to inform people about fishing seasons.

TABLE 3-2.
RECREATION ACCESS AND USE SITES ON THE LOWER KLICKITAT RIVER

Location and Access	Ownership	Type of Use Description
RM 10.2, east bank, (downstream from Pitt Bridge)	Klickitat County park	Fishing, boating, river access. Unimproved and unmaintained county park land, approx. 2 acres, some parking, no facilities and limited/unimproved river access.
RM 8.1, east bank, next to Hwy 142	Private	Fishing, boating, river access, limited camping. Roadside pullout, approx. 1 acre with unimproved river access (most heavily used as river take-out for drift boats), no maintenance, improvements or facilities.
RM 5.5, east bank, on Hwy 142; known as "Three Pines"	Private	Camping, fishing, picnicking, river access. Unimproved site, approx. 5 acres without facilities or maintenance, some parking and limited river access.
RM 5.1, east bank, maintained gravel road access from Hwy 142; known as Dillacort or "Turkey Hole"	Washington Department of Wildlife	All uses. WDW sportsmens access, approx. 5 acres, with primitive camping and sanitation facilities (IAC funded), river access with limited unimproved boat ramp (take-out area).
RM 1.1, east and west banks; gravel pulloff from Highway 142 on east bank.	Washington Department of Fisheries	Not managed as a recreation site; well-used trail down to the river; no facilities or scheduled maintenance; access is across railroad tracks.
RM 0.8, east bank, primitive road access from Hwy 142; no road signs	Klickitat County	All uses. Klickitat County park lands, approx. 6.8 acres; sportsmens access area, unmaintained; river access without boat launch area (boats launch at Lyle).

Of the three designated public access sites, two are owned by the county and one by the state. None of the sites provide drinking water, trash removal service, or regular site maintenance and restoration; all show heavy signs of impact from recreational use. Boat anglers have suggested a need for limited boatramp/river access sites at several locations between RM 3.8 and RM 10 (Ramsey et al., 1989).

Use Patterns. Recreation use data are extremely limited for this river segment. Very rough use estimates range from 5,000 to 10,000 recreation visitor-days (RVD; one RVD equals 12 hours of recreational use) annually (Danylchuk, 1988; U.S. Forest Service, 1989). Traffic counts on Highway 142 at the junction with Highway 14 were estimated at 1,250 vehicles per day in both directions during August, 1989 (Washington Department of Transportation, 1989).

Heaviest fishing use occurs during runs of spring chinook and summer/fall steelhead. Fishing intensity varies with size and duration of runs. Sport catch for steelhead on the Klickitat exceeded 1,400 for 1986, ranking it as one of the more significant sport fisheries in Washington for this species (Washington Department of Wildlife, 1987). Up to 200 anglers have been observed on the lower 1.5 miles of river during periods of heavy use (U.S. Forest Service, 1989).

Although currently low, recreational use of the segment is expected to increase, following trends on other, similar rivers in the region. On the more heavily-used Deschutes, which flows into the Columbia east of the Klickitat, use levels have increased steadily, from just over 90,000 boater-days a year in 1982 to over 130,000 in 1988. Much of this use is by salmon and steelhead anglers, as is the case on the Klickitat. Boating use on the John Day River, which also meets the Columbia east of the Klickitat, has increased about 10-15 percent a year over the past five years, from about 6,500 boater days annually in 1984 to 8,000 - 9,000 in 1989.⁷

Use levels changes on these nearby rivers show that demand for recreation on the lower Klickitat is likely to increase well beyond those cited by the Statewide Comprehensive Outdoor Recreation Plan (SCORP), which estimated annual increases of about .8 percent in outdoor recreation use levels through the year 2000. In addition, recreation demand on the lower Klickitat is likely to increase significantly if other rivers in the region instituted use limits. For example, two of the four alternatives being considered for management of the Deschutes River would decrease use from existing levels (Bureau of Land Management, 1990).

Many of the problems common to high-use rivers have not occurred on the lower Klickitat. Although it is not possible without better data to determine a recreational carrying

capacity (or, more preferable, to establish the relationship between use patterns and desirable social and physical conditions of the corridor), current use appears to be well below capacity for semi-primitive non-motorized and motorized opportunities.

Safety. A primary safety concern on the lower Klickitat, the safety of Native Americans engaged in dip-net fishing, is addressed in Section 3.9. Other safety concerns include motorized boating on the river below the gorge and the absence of warning signs above the gorge to alert boaters of hazards in the gorge area (Ramsey et al., 1989). Only one whitewater boating descent of the lower gorge has been documented (Reynier, 1989), but increased numbers of attempts of this risky activity can be anticipated.

Another concern is Highway 142 along the lower three miles of the river. The lack of guard rails and warning signs, twisting road alignment and increased roadside parking have been cited as potential problems at the public meeting in on April 20, 1989, and by Task Force members (Gorman and Frey, 1989). The Washington Department of Transportation does not consider Highway 142 to be dangerous as long as people are not speeding, and the few places that could use guard rails are too narrow for their installation (Hogan, 1990). The county has recommended development of roadside pullouts and view areas along Highway 142 near the gorge at RM 2.5 to resolve some road safety issues (Gorman, 1989). Formal pullouts also would provide an opportunity for interpretive signs.

Impacts of Recreation. At public meetings in Lyle, landowners reported increases in recreation-related trespass, litter, vandalism and theft. The majority of reported situations and problems has been on the river below the gorge, where some of the most concentrated use occurs. Other concerns expressed involve land owner liability and recreation trespass.

3.8 Visual Resources

The scenic resources of the lower Klickitat are influenced by geographical, geological, climatological and cultural associations with the Columbia River Gorge. This reach is more densely settled and utilized than the upper Klickitat primarily due to proximity to major transportation routes along the Columbia. The result is a riverscape composed of cultural as well as natural features and patterns and containing permanent developments such as Highway 142, which parallels much of the river. The historic farm and ranch buildings and primitive canyon switchback roads contribute to the cultural landscape.

Viewshed Analysis. For visual resources, the affected environment is defined as those areas viewable from the river and other important viewing areas such as Highway 14, Highway 142, and developed recreation and access areas (see Map 3-5). Almost the entire river segment is within view of people traveling on Highway 142 and other canyon roads,

7. These estimates are for floating use between Service Creek and Cottonwood Bridge during the main float season between April and July.

including the Fisher Hill road. Due to the open vegetation, views from the river extend to the surrounding hilltops or plateaus in most locations. These distant views contribute to the visual variety, landscape scale, and scenic quality. Distant views to Mt. Hood are possible from Highway 142 near RM 2.5. At least 55 residences also have views of the lower Klickitat.



Mixed stands of oak and ponderosa pine are common on the hillsides (view north from WDW access site near RM 5).

Highway 142 provides the main public access for sightseeing, increasing the scenic value of the river which otherwise would be seen by few. This two-lane highway winds in conformance with the meanders of the river and provides both close views of the river and unfolding panoramas of the canyon. Views are unobstructed by guardrails or other roadside developments. Klickitat County promotes the highway as part of a scenic loop drive.

People who view the river corridor from the river include those who come to fish, boat, or camp. Recreational use on the designated segment of the river is estimated to be 5,000-10,000 RVD's per year. Most of these utilize either the area around the mouth or the area upstream from the gorge. The gorge itself is used mainly by Native American fishermen and those who stop to gaze down at this visually spectacular area. Views from individual residences were not evaluated; however, the river and canyon views experienced by travelers and recreation visitors overlap many of the views experienced by residences within the corridor. The views from residences are important, as documented by the real estate value of view properties.

The scenes viewed most often include the mouth of the Klickitat as seen from Highway 14, the lower gorge area as seen from the Fisher Hill bridge, the river as seen from

adjacent sections of Highway 142, the river and canyon walls from public recreation sites, and the canyon as viewed while boating the river.

The visual experience in each of these areas differs depending on the orientation of the viewer. For example, car travelers typically have high expectations for scenic beauty but the time spent in any one location, be it along the road or at pullouts, is relatively short. By contrast, while scenic quality is also important to boaters and anglers, their focus tends to be on the river, the shoreline, and the area immediately adjacent the shoreline; riparian buffers are therefore important to maintaining their aesthetic experiences

Riverscape Character and Quality. The 1,400-foot deep lower Klickitat canyon's most famous scenic feature is the bedrock gorge. Although less than 100 feet deep, the cliffs narrow to as little as eight feet apart and the water explodes through the gorge in continuous whitewater rapids. The visual appeal is accented by the tenuously-appearing dip-net fishing platforms and, during seasonal fish runs, by Native American fishermen practicing their art. The gorge and its dip-net fishery were featured as part of a recent article on Washington State published in National Geographic.

Another noteworthy feature is the visual diversity created by the undulating grassland and forest patterns that swirl across the rounded hills and deep draws. The dry grasslands, oaks and other deciduous trees and shrubs, spring wildflowers, and winter snows create distinctive seasonal color changes within the canyon. In the hot, dry summers, the river serves as an attractive, cool oasis.

The river outside of the gorge area maintains its own special visual appeal. Downstream from the gorge the river is a deep pool framed by low, exposed basalt walls. Upstream from the gorge the river is a meandering sequence of pools, riffles, and gravel bars. Banks are often framed by towering ponderosa pines. Views in the area upstream of the gorge also periodically include man-made objects such as the road, natural rock rip-rap, and, less frequently, structures.

Existing Management Practices Affecting Visual Resources. The draft plan for the Columbia River Gorge National Scenic Area designates the west bank of the Klickitat within CRGNSA boundaries as Open Space and the east bank as a transition zone between the river and town of Lyle, where some rural residential and recreation development may be appropriate.

The corridor has historically been protected by topography, relatively large public and private land holdings, and private landowners' stewardship. Prior to the CRGNSA, no local, state or federal laws or management activities specifically addressed protecting or enhancing aesthetic resources within the viewshed of the lower Klickitat River. The SMP provides some scenic quality protection within the immediate 200-foot shoreline, although the emphasis is on protecting natural resources and water quality rather than directly addressing scenic resources. Washington State has no management programs for scenic resources other than through the SEPA checklist, which is required only for specific activities such as converting commercial forest land to resort development. The State Forest Practices Act requires no visual resource considerations, although there is growing public pressure to amend the law to address aesthetics, particularly in highly sensitive landscapes.

While aesthetic resources are not directly managed like water quality and fish, several laws and programs help to conserve visual quality. For example, Washington's Interagency Committee for Outdoor Recreation (IAC) manages the Federal Land and Water Conservation Fund, which can be used to acquire scenic properties. The DNR's Natural Heritage Program manages exemplary natural communities and T&E species sites, which serves to protect scenic values. The Washington Department of Ecology manages water quality and quantity, which also protects water appearance. Klickitat County zoning and state tax laws help to slow the conversion of agricultural and forest lands to other uses.

3.9 Native American Traditional Uses and Rights

Traditional Uses. Native Americans have inhabited the area along the Columbia river and its tributaries since before recorded history. These people, members of the plateau culture, evolved a rich culture that relied on the river and its corridor for fishing, hunting, and village sites. While many of these original inhabitants eventually were displaced by the pressures of European settlers and the gradual decline of the fisheries, Native Americans continue to live in the area and use the river for traditional purposes. The river also is used for these purposes by Native Americans living outside the river corridor, particularly by those living on the Yakima Indian Reservation.

Traditional Native American activities that continue to occur within the Klickitat River drainage include collecting of roots and berries, collecting of materials for basket weaving, hunting, and fishing. Along the lower river the primary traditional use, and one found to be an outstanding resource value, is Native American dip-net fishing (*see Box 3-4*).

The gorge is in a natural state except for a fish passage facility at the upstream end where a falls once impeded upstream fish

Box 3-4

Outstanding Resources: Native American Dip-net Fishery.

The dip-net fishery of the Klickitat gorge is regionally and quite possibly nationally significant. Native Americans have utilized dip-nets as a principal means of catching salmon and steelhead in the Columbia basin since before recorded history. The method was particularly well suited to areas with falls and rapids where the fish would be forced to follow a defined route and expose themselves to the fisherman as they struggled to climb upriver. This fishing method was used at numerous falls along the Columbia and principal tributaries.

Of the mid-Columbia tributaries, the Klickitat was apparently one of the favored fishing sites, due to both the number of fish and because the river flowed through the inner Columbia area's narrowest high volume gorge. This bedrock gorge, located just upstream from the river's mouth, constricts the river's flow to form a set of continuous rapids, creating an ideal location for dip-net fishing.

Only on the Deschutes, at Sherar's Falls, and on the Klickitat, at the gorge near the river's mouth, has the traditional dip-net system of fishing continued in a manner similar to that before the coming of the dams. The lower Klickitat gorge area is especially valuable because of the number of available fishing locations and the spectacular, narrow gorge setting. The readily-viewable fishing platforms scattered along the gorge section are each owned by a family or group; in some instances, these property rights go back for generations.

migration. Fishing platforms and scaffolds line the gorge. Portions of the shoreline are owned by the Washington Department of Fisheries, the Washington Department of Natural Resources, the North Dalles Irrigation District, and a private landowner. The Department of Fisheries owns the entire west bank and a portion of the east bank, using its land to access the fishway and for conservation purposes. Native American fishermen are allowed access to the gorge through both treaty rights and informal landowner agreements.

The upland area on the west side of the river at the head of the gorge is Native American trust land, originally allotted to individual members of the Yakima Indian Nation early in the century. These and other allotments in the Columbia River area carried rights similar to other privately held lands including the right to develop and, with some limitations, sell the property. These rights differ, however, because the Bureau of Indian Affairs, through the Yakima Indian Agency, must

approve any sale. The Yakima Indian Nation maintains the right to purchase any trust lands that may be on the market. The Nation maintains a fund for such purchases and has historically been keenly interested in purchase of lands with high cultural or fisheries significance.

The issue of how trust lands are used is complex because lands have long since passed from original owners to their heirs. Where there was more than one heir, lands were passed to all in common. As a result, trust lands near the gorge have multiple owners. Development of land requires agreement by all owners. When any one owner wishes to sell his or her share, a majority of other owners must agree to this and, when this occurs, other owners have the right of first refusal.

The safety of Native Americans fishing in the gorge is a major concern. Nine drownings occurred on the Lower Klickitat during the past three years (Gorman et al., 1989). All of these were in the gorge area and all were Native Americans. The

as one nation, the Confederated Tribes and Bands of the Yakima Indian Nation. The treaty, which ceded certain lands to the United States for use by settlers, also created a reservation for use and occupation as well as reserving specific rights and privileges on lands outside reservation boundaries. These included the "privilege to hunt, gather, and pasture horses and cattle upon open and unclaimed land," which the courts have interpreted to mean all state and federal lands excluding national parks.

Of the reserved rights, access to fish has proven to be the most contentious and far-reaching. While the basis for Yakima tribal fishing rights was established in the 1855 treaty, these rights have been clarified through a series of court decisions. Two cases stand out: United States v. Winans (198 U.S. 371 (1905)); and United States v. Washington Phase I (384 F. Supp. 312 (W.D. Wash. 1974)) and Phase II (506 F. Supp. 187 (W.D. Wash. 1980)).

U.S. v. Winans confirmed that the treaty right endured when Washington's entry into the union and further concluded that tribal fishing rights included the right to cross private lands to access fishing areas. United States v. Washington expanded on this. In Phase I (commonly referred to as Boldt I) the court found that access to fishing locations did not, in and of itself, meet the terms of the 1855 treaty. In addition, treaty Indians had the right "to take fish in common with the citizens of the territory," (at 343) or, more directly, were entitled to 50 percent of the harvestable fish. The Phase II ruling (commonly referred to as Boldt II) recognized that the "most fundamental prerequisite to exercising the right to take fish is the existence of fish to be taken" which, in turn, implied "... the right to have the fishery habitat protected from man-made despoliation" (at 203).



Native American dip-net fishing in the gorge.

Coyote Search and Rescue Team, a local Native American volunteer group, has performed a number of rescues of both Native Americans and non-Native Americans and hopes to expand its efforts to decrease the number of accidents and fatalities on the lower Klickitat. Preventive measures such as river safety training for Native American fishermen have been suggested. Concern has been raised regarding lack of coordination and communication between the Coyote group and Klickitat County search and rescue operations.

Treaty Rights. In 1855, the government of the United States and several central and eastern Washington tribal groups signed a treaty. Tribes and bands represented included the Klickitat and Wishram, the principal inhabitants of the Klickitat river basin. The treaty established these tribal groups

One effect of this ruling was to position the Tribes to be active participants in the management of fish and their habitat. Recent federal legislation indicates that Congress supports this idea. The Pacific Northwest Power Planning and Conservation Act (16 U.S.C. 839 (1980)) made clear this relationship with regards to fish restoration in the Columbia Basin. The Electric Consumers Protection Act (P.L. No. 99-495, 16 U.S.C. 808 (1986)) reaffirmed the role of Tribes in fish management, this time with regards to licensing of hydropower projects. Today treaty Tribes and state and federal resource agencies actively cooperate in Columbia Basin fish management. The Columbia River Fish Management Plan, the U.S.-Canada Pacific Salmon Interception Treaty, and the Columbia Basin Systems Plan all were heavily influenced by Tribal participation. Treaty Tribes also actively participate in land use issues that may affect

anadromous fish, including forest planning and wilderness designation.

Protection of Sacred Areas. In common with many cultures, the Native Americans of the Columbia plateau have certain areas that hold special religious meaning. Of paramount concern are ancestral grave sites and traditional locations for cultural and spiritual ceremonies including quest sites. The American Indian Religious Freedom Act established the right of all Native Americans under U.S. jurisdiction to practice their religions and to have access to sacred places on federal lands. This law has little effect in the lower Klickitat River corridor because only 200 acres are in federal ownership.

In Washington State, the Indian Graves and Records Act (RCW 27.44) requires that all prehistoric and historic Indian burial grounds and cliff drawings found on state or private lands be preserved. Other laws, described in Section 3.10, also protect Native American historical sites.

3.10 Archaeological and Historic Resources

Cultural resources identified with this section of the Klickitat River include prehistoric and historic Native American sites and historic sites associated with European settlement.

Prehistoric and Historic Indian Sites. There has been limited investigation of prehistoric or historic Native American resources within the Klickitat drainage, but one major pre-historic/historic settlement is known to have existed along the designated segment -- a year-round Klickitat Indian village near the mouth of the river. This village, which housed approximately 200 people, was noteworthy because it was the only permanent Klickitat Indian settlement along the Columbia. Another settlement, located near the confluence of the Klickitat and Little Klickitat above the designated section, apparently served as a central gathering place for Indians throughout the drainage.

The year-round village has not undergone detailed archaeological analysis so its eligibility for registration as either a state or federal historic site is unknown. No systematic, area-wide archaeological evaluation has been undertaken; it is therefore not known whether other settlements or use sites might be located in the vicinity. Given available evidence, there is a high probability that additional sites do exist.

Historic Sites Relating to European Settlement. The Lewis and Clark expedition was the first European incursion into the Klickitat area. Expedition journals referred to the river as the "Cascade" or "Caterack" River, suggesting they ventured at least as far upstream as the gorge section. Journals also noted Native American fish-drying racks near the river's mouth. The expedition did not

camp at the Klickitat and there is no on-the-ground evidence of its passing, nor of later military or mapping expeditions.

The Klickitat River valley was, and continues to be, largely devoted to ranching. Early ranch buildings still stand in the corridor and wagon wheel tracks dating from the mid-to-late 1800's have been found in the area. None of these sites have been investigated in detail or included on federal or state registers. The railroad bridge that crosses the Klickitat near its mouth is included on the National Register of Historic Places. The nearby Highway 14 bridge was included in the Washington Office of Archaeology and Historic Preservation's State Inventory of Historic Places but has not been registered.

Protection of Archaeological and Historic Resources. Federal and state laws protect many river related prehistoric and historic cultural resources. The principal federal law is the National Historic Preservation Act of 1966 (PL 89-665, 16 USC 470). The corresponding state law is the State Historic Preservation Act (RCW 27.34), an act relating to historic sites and properties. Other relevant state laws include the Archaeological Sites and Records Act (RCW 27.53), an act relating to archaeological sites and records, and the Indian Graves and Records Act mentioned above.

The National Historic Preservation Act established the National Register of Historic Places. The state's Historic Sites and Properties Act established a State Register for Historic Preservation. While they differ in some respects, the intent of both laws is to give recognition to and encourage protection of places having historic significance.

Properties important in history, prehistory, architectural history, engineering history, archaeology, or culture may be entered in either, or both, registers. The eligibility criteria for both are similar and include: 1) association with events that have made a significant contribution to the broad patterns of our history; 2) association with the lives of persons significant in our past; 3) embodiment of distinctive characteristics of a type, period, or method of architectural construction; or 4) yielding of information important in prehistory or history.

Section 106 of the federal act requires that a review be conducted prior to undertaking any federal action that might affect a site that is on or is eligible for the register. This provision also extends to properties that possess significance but that have not been listed or formally determined eligible, including sites as yet unknown. Federal actions that might trigger this review include construction, property transfers, licenses and permits, loans, and other similar activities.

The purpose of the 106 review is to determine if a site would be adversely affected and, if so, to identify ways to avoid or mitigate the adverse effect. The act does not grant the authority to stop a project to preserve a historic site; rather, it mandates that historic resources be "taken into account." The state's Historic Sites and Properties Act has a similar review

procedure. As a practical matter, federal and state reviews often are merged.

The state's Archaeological Sites and Records Act (RCW 27.53) regulates disturbance of archaeological sites on state or private lands by requiring that a permit be received from the state prior to disrupting or removing archaeological artifacts. The Indian Graves and Records Act, discussed in the section on Native American sacred areas, requires preservation of prehistoric and historic Indian burial grounds and cliff drawings found on state or private lands.

3.11 Geology and Soils

The geology of the Klickitat River, like that of the entire region, is dominated by the effects of Cascade volcanism, basalt extrusion, and glacial erosion and deposition. The lower Klickitat flows through a canyon incised into basalt flows of the Columbia River Group that are 2,000 feet thick in some areas (Anderson, 1987). Repeated fissure eruptions during the Miocene deposited a thick sequence of basalts (the Columbia River Group) which forms the most widespread geologic unit in this area (Brown, 1979; Korosec, 1987a). More recent geologic formations reflect periods of volcanic activity and glaciation during the past two million years. These include basaltic and andesitic lavas from the Mt. Adams, Indian Heavens, and Simcoe Mountain eruptive centers that are interfingering with deposits of mountain and ice sheet glaciation (Vallance, 1986; Korosec, 1987b). These deposits cap the Columbia River Group in higher elevation areas.

Sediments associated with the catastrophic Missoula Floods, which formed the Channeled Scablands of the Columbia Basin between 15,300 and 12,700 years ago (Waitt, 1985), are present along the west side of the Klickitat River near its confluence with the Columbia.

The lower Klickitat gorge, although only about one mile long and less than 100 feet deep, is extremely narrow (less than eight feet in one location) for a river the size of the Klickitat (Land and Water Associates, 1989). The gorge's many characteristics make it an outstanding resource (*see Box 3-5*). In the lower reach of the study area, the Klickitat valley broadens and includes sand, silt, and gravel deposits of the Missoula Floods (Walsh et al, 1987).

Soils in the lower Klickitat River corridor vary with the local topography and characteristics of the substrate. The corridor is dominated by fluvial deposits adjacent the river and steep bedrock and talus slopes (the canyon walls) leading up to the higher plateau area. Soils developed on the fluvial deposits are primarily Fluventic Haploxerolls (a riverwash complex) developed on low river terraces and islands, mainly next to the river or within the channel. The parent material is mixed river sediment, ranging from silt to extremely cobbly sand, with soil typically at least 60 inches thick. In low areas of the flood plain, there is potential for significant erosion and deposition as a result of flooding.

In the lower stretch of the Klickitat River, the riverwash complex occurs most typically as deposits on the inside face of river meanders. On the steeper slopes (8 to 30 percent) above the riverwash, Gunn loams are developed on loess



One of the narrowest sections of the gorge. A possible gorge overlook site is located where the highway rounds the curve at the upper right (view north from RM 2).

Box 3-5

Outstanding Resources: Geology.

The lower Klickitat River gorge is only a mile long and only 20 to 40 feet deep but narrows to less than eight feet at one location. No other river in the region discharges this amount of water (average daily flow of 1,650 cfs, measured at Pitt) through such a narrow gorge, making it a regionally significant resource. In addition, the lower Klickitat River gorge is easily viewed from many locations and has been utilized extensively as a native subsistence fishing site for generations. Each of these factors adds substantially to the overall significance of the gorge.

(glacial silt) and volcanic ash overlying basalt residuum. The Gunn loam is a stable, well-drained, stony loam which are up to 45 percent basalt fragments and stones on the surface in some areas. It has a low to moderate erosion potential, depending on the local slope angle.

Opposite the point bars, on the cut slopes of the meander forms, steep to moderately steep side slopes are dominated by rock outcrop/rubble soil complexes (including Leagll, Leidl, Oroke, and Mazdale variants), generally thin to moderately deep, very cobbly and gravelly, with 30 to 80 percent basalt fragments. These soils are unstable and susceptible to erosion in both natural and disturbed states. Fractured basalt is found in extensive outcrops or closely underlies the surface of steeper slopes.

Box 3-6

Outstanding Resources: Hydrology.

The Klickitat River is the second longest free-flowing river in the state of Washington (only the Chehalis is longer). The majority of rivers of this size in the northwest have at least one dam along their course. At 96 miles long, the Klickitat is second only to the John Day River as the longest free-flowing river in the Lower Columbia River subregion. Therefore, it is considered a regionally significant value.

The Klickitat's free-flowing character provides scientific, educational, recreational, and fish and wildlife benefits. Rivers whose flow is not impounded at any point provide opportunities to observe the natural cycle of flood and scouring along with unaltered streamside vegetation. Such free-flowing waterways offer opportunities to study and compare riverine and riparian ecosystems.

The two soda springs that flow into the river add to hydrologic value. Carbon dioxide charged springs are very rare in the state, occurring only in a few locations. The first, referred to as the "Soda Springs," is located on the Klickitat River near RM 24.5 several miles above the mouth of the Little Klickitat River. The dissolved solids content of these springs are much higher than any others found in the Columbia Plateau (Brown, 1979). The second is the Klickitat Mineral Springs and historic commercial ice house on the river near Wahkiacus.

3.12 Fish and Instream Resources

Streamflow. The Klickitat River, draining an area of over 1,300 square miles (Brown, 1979), is the second longest free-flowing stream in the State of Washington. The integrity of the river's hydrological system makes this an outstanding resource, especially when coupled with the river's other hydrologic features (*see Box 3-6*). The main stem of the Klickitat River is nearly 96 miles long, from the Goat Rocks area of Yakima County to its confluence with the Columbia River. The river gradient in the lower Klickitat is steady and moderate, averaging about 26 feet per mile.

Much of the upper Klickitat's discharge comes from its upper watershed in western Yakima County, including the eastern slopes of Mount Adams where annual precipitation often exceeds 100 inches (Brown, 1979). Approximately 90 percent of the discharge of the lower Klickitat comes from the upper Klickitat, with the remainder supplied primarily by the Little Klickitat River, which joins the main river north of Wahkiacus. Although the Little Klickitat River typically supplies about 10% of the mean annual flow of the Klickitat River, during individual storms the Little Klickitat has supplied up to 37% of the discharge of the main river (Brown, 1979).

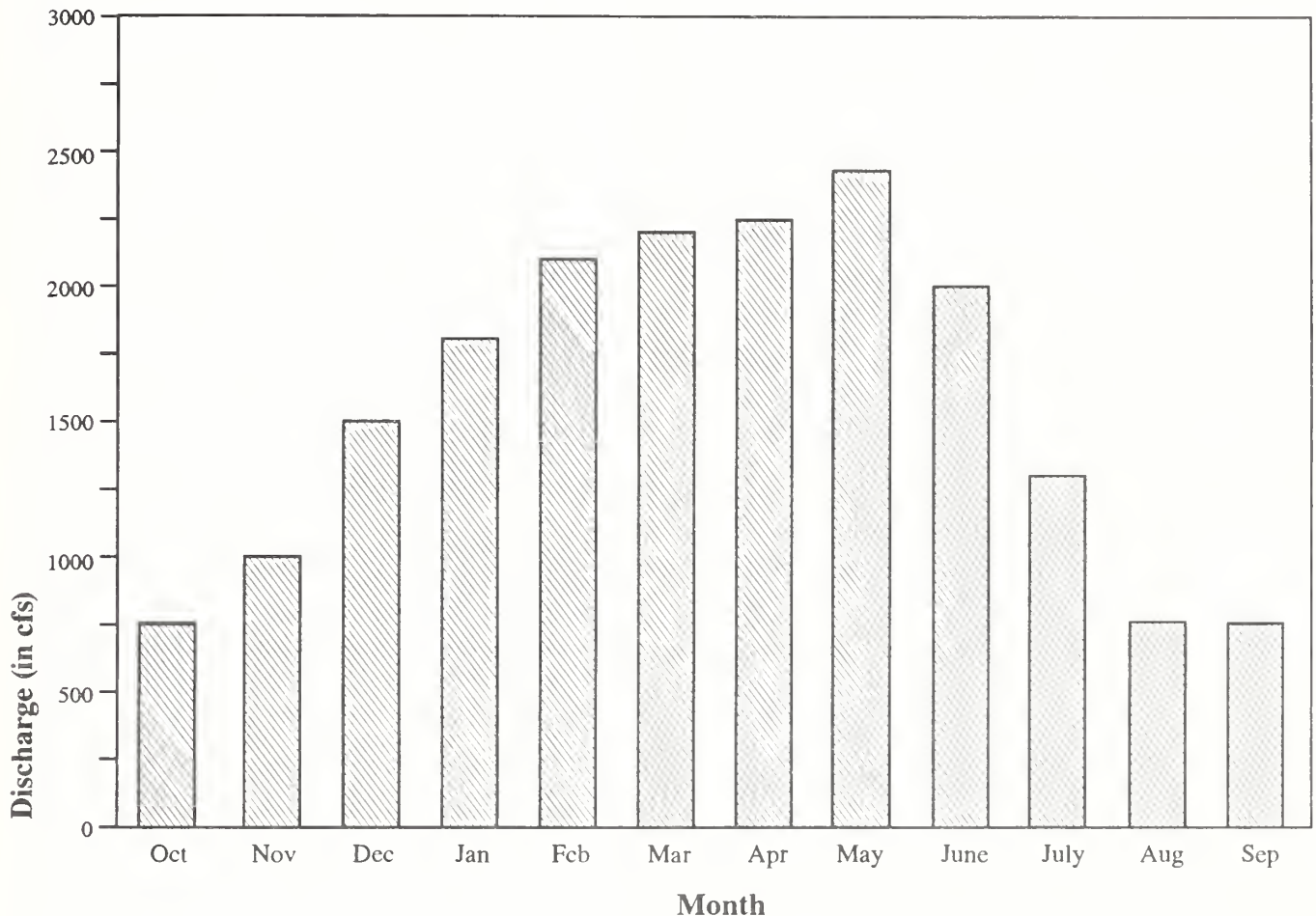
The annual hydrograph of the Klickitat River at RM 7.0 (*see Figure 3-3*) is characterized by a steady increase in flows during the winter wet season, rising to a peak during spring snowmelt. The mean annual flow, as measured near Pitt, is about 1,650 cubic feet per second (cfs). Flows are relatively low during the drier summer months, partially due to withdrawals from the Little Klickitat River and Swale Creek, tributaries to the Klickitat. Yet summer flows still exceed 750 cfs, largely due to the sustained input from snow and ice melt high in the river's source area on Mount Adams. Snowpack meltwater makes up a large percentage of the annual discharge of the Klickitat River (Brown, 1979), but much of the winter flow comes from rainfall in the middle and lower parts of the river basin.

The Department of Ecology's Water Rights Information System reports that, as of May 2, 1990, water rights have been issued for the consumptive use of 13 cfs of surface water and 285 gallons per minute of groundwater between Summit Creek and the mouth of the Klickitat. These water rights, mostly for irrigation (although some are for domestic use), include all issued since 1917. Surface water rights include withdrawals from tributaries as well as from the mainstem Klickitat. Most of the groundwater rights were issued to the Klickitat Public Utility District #1 and are used for domestic water distribution.

Water Quality. Water quality is monitored systematically at only one location on the Klickitat River, near the town of Pitt (DOE, 1989a). The lower Klickitat River from the mouth to RM 19.8 at the confluence of the Little Klickitat

(Figure 3-3)
Average Monthly Discharge of the Klickitat
at RM 7.9, 1909 - 1985.

(from Bechtel, 1981)



River is rated Class A (excellent). However, the State of Washington considers this rating to be threatened due to marginal temperature conditions and the quantity of suspended solids, both due to natural causes (DOE, 1989b).

Temperatures during the summer months have been recorded as high as 65 degrees fahrenheit at RM 7 (U.S. Geological Survey, 1989). These temperatures are not warm enough to have detrimental effects on cold water fisheries, but are high enough to warrant caution in planning any future developments which may potentially affect river temperatures. The warm water temperatures in the river are primarily due to natural low flows, warm air temperatures, and high solar radiation during the summer months. Water withdrawals during the summer in the Little Klickitat River and other tributaries may contribute to high summer temperatures (Yakima Indian Nation, et al., 1989). Riprap along the banks displaces normal riparian vegetation and also contributes to higher temperatures.

Turbidity in the river is often high, particularly during peak discharge periods. Sources of sediment include glacial melt-water, discharge of particularly turbid streams (including the Little Klickitat) and, possibly, logging and grazing upstream from the lower Klickitat (Yakima Indian Nation, et al., 1989).

Anadromous and Resident Fish. The habitat for anadromous and resident fish in the Klickitat River is generally excellent. When combined with the size and number of fish runs and other features, both anadromous and resident fish qualify as outstanding resource values (see Box 3-7).

The Klickitat River supports runs of three species of anadromous fish— steelhead trout, chinook salmon, and coho salmon—comprising six distinct runs: summer and winter steelhead; spring and fall chinook; and early and late coho. These runs are quite important because relatively large numbers of steelhead and chinook are present and the Klickitat is one of the few rivers in Washington supporting spring chinook runs.

The summer steelhead runs are estimated to be two-thirds hatchery production and one-third natural. The winter steelhead run is entirely natural and the fishery is managed to protect the run. The spring chinook run in the Klickitat is supported primarily by hatchery releases although some natural spawning is known to occur. Neither fall chinook nor coho salmon are native to the Klickitat River; runs of both have been established by hatchery plants. Coho production is believed to depend entirely on hatchery releases and the fall chinook runs depend largely on hatchery production, although some natural spawning is thought to occur.

The river is recognized as an important sport fishery for summer steelhead in the state of Washington. Reported sport catches are significant when compared with other similar angling opportunities within the region, especially on the Washington side of the Columbia. Spring chinook are important contributors to the Yakima tribes' subsistence fishery and the tribal commercial fishery. All salmon populations of the Klickitat River are intercepted by, and hence support the various aspects of, the Columbia River and

offshore commercial fishing industry (Yakima Indian Nation, et al., 1989).

Above the gorge area, good fish habitat is distributed fairly uniformly throughout the river. The gorge reach itself is an area where the river is constricted and the substrate is primarily bedrock. As a result, the gorge reach lacks spawning and rearing habitat. Lyle Falls, located within the gorge reach, is believed to be a partial block to upstream movement of some species of anadromous fish, particularly during periods of low flow in late summer and early fall (Bryant, 1949). Passage of fish upstream of the falls was enhanced in 1952 when rock was removed from the falls and fishways were constructed.

The potential significance of the river is even greater than existing runs indicate. The river appears to be producing both chinook salmon and steelhead well below its capacity. Varying flows, sediment loads, warm summer water temperatures, and passage of Castile Falls (Rm 64) also have been cited as potential limits to productivity. As part of the sub-basin planning process, strategies have been identified to address these constraints. In addition, the planned Yakima/Klickitat Hatchery (well above the lower Klickitat) will increase runs and help rebuild natural runs of steelhead and Chinook thus enhancing the fishery value of the river. Improvements also are planned at the fish ladder at RM 2.5, including a possible fish entrapment and transportation facility.

Currently, the Columbia Basin System Plan is being developed jointly by state and federal resource management agencies, Tribes, and the Northwest Power Planning Council. This process has been undertaken pursuant to U.S. v. Oregon and U.S. v. Washington, which mandated equitable use of salmonid resources between treaty and non-treaty fisheries and provided for protection against environmental degradation of spawning and rearing areas. The Plan is designed to enhance salmon and steelhead production throughout the Columbia River watershed, including the Klickitat River. Although the measures that will be used to augment and restore the runs in the Klickitat River have not yet been finalized, future fisheries projects are certain to include the development of the Yakima/Klickitat fish hatchery near Summit Creek. This hatchery will be used to enhance natural runs in the region and to contribute to research on methods of improving production (Yakima Indian Nation, et al., 1989). Other future projects are likely to include efforts to reduce sediment inputs, enhance riparian habitat, and improve hatchery practices.

In addition to the significant salmon resources in the Klickitat River, resident fisheries for rainbow trout, cutthroat trout, and whitefish also are supported. Currently, the Klickitat River's resident fish populations are not enhanced by hatchery plants. However, fingerling and legal size cutthroat trout are planted in several of the tributaries to the river (Weinheimer, 1989). The trout and whitefish populations in the Klickitat River are

Box 3-7

Outstanding Resources: Anadromous and Resident Fish.

The Klickitat River supports the most significant anadromous fishery on the Washington side of the Columbia in the stretch from the Bonneville Dam to the Snake River. The Klickitat was judged to be the second most important anadromous fish habitat of all rivers in both Washington and Oregon draining to this reach of the Columbia.

Features which distinguish the anadromous fishery on the Klickitat include the presence of a traditional Native American dip net fishery, the quality of the river's habitat, the number of anadromous species present, the number and size of runs, and recreational as well as historical significance.

Klickitat spring chinook play a critical role in meeting the subsistence fishing needs of the Yakima Tribe and fulfilling the treaty share of tributary harvest for the entire Columbia Basin. The significance of the fishery is borne out by large Tribal catches (23,000+ coho) and sustained sport catches in recent years. The river provides one of the few opportunities for spring chinook harvest in the area because basin stocks are generally at low levels.

The section from the head of the gorge upstream to Pitt also was rated as outstanding for resident fish. Many of the same characteristics providing anadromous fish habitat also support abundant, good-sized rainbow trout and whitefish.

generally distributed throughout the length of the river, up to and beyond Summit Creek. Sport fishing in the lower study section is concentrated in the stretch from Pitt down to the head of the gorge (Land and Water Associates, 1989).

3.13 Vegetation

The Klickitat River lies on the eastern edge of a major physiographic transition zone where a marine climate grades into a continental climate, resulting in a diverse mixture of microclimates and plant habitats. In addition, the lower Klickitat is strongly influenced by the climate of the Columbia River Gorge. The Gorge, a near-sea level route across the Cascades, has provided a major migration route for many plant and animal species between marine and continental environments. Major plant communities in the lower study section include ponderosa pine (*Pinus ponderosa*)/Oregon white oak (*Quercus garryana*), Oregon white oak/grassland, and open grassland. This area also supports a variety of plants, including endemics and relict populations, that grow only in the climatic transition zone between the Wind and Klickitat rivers (Land and Water Associates, 1989).

Plant Communities. Between its confluence with the Columbia River and about RM 3, the lower Klickitat River flows through a well-defined canyon, often with vertical rock sides. Between RM 1.5 and RM 2.5, this canyon is the narrowest gorge in the region (Land and Water Associates, 1989) and supports no riparian vegetation. In a few locations, willow (*Salix* sp.) and alder (*Alnus* sp.), have established in rock crevices and in narrow bands or patches.

Above RM 3 the river channel broadens, supporting a narrow but well-developed riparian community along most of its length. Relatively large areas of riparian vegetation have established on islands and on gravel bars that occur in broad river bends. These communities contain black cottonwood (*Populus angustifolia*), in addition to willow and alder. In many locations the riparian vegetation, particularly understory grasses and forbs, has been degraded by grazing. Additional disruption of the riparian zone stems from roads that parallel the river throughout the entire designated section.

Upland vegetation throughout most of the lower Klickitat corridor is characterized by a mixture of Oregon white oak and ponderosa pine. Most slopes in this area (particularly those facing south and west) support primarily the Oregon white oak/grassland community. The understory in upland areas generally includes a variety of shrubs such as deerbrush (*Ceanothus integerrimus*) and Oregon grape (*Mahonia aquifolium*). Common grasses include wheatgrasses (*Agropyron* spp.), bluegrasses (*Poa* spp.), pinegrasses (*Calamagrostis* spp.), bromes (*Bromus* spp.), and fescues (*Festuca* spp.) (Washington Department of Wildlife, 1972).

There are no known areas within the lower Klickitat corridor that support plant communities that are unique within the region (Land and Water Associates, 1989).

Sensitive, Threatened and Endangered Plants. There are no known plants in the lower Klickitat corridor or in Washington state that are federally listed as endangered or threatened. However, a survey conducted from May 22 to June 29, 1989, of the areas within one-half mile of the Klickitat River identified five species in the study section (see Table 3-3) that are listed by the Washington Natural Heritage Program (WNHP) as threatened or sensitive (Bakke et al., 1988). State threatened plants are species likely to become endangered in the near future in Washington if factors contributing to their population decline or habitat loss continue (WNHP, 1987). Plants classified as sensitive are species with populations that are vulnerable or declining, which could become endangered or threatened in the state without removal of threats or active management (WNHP, 1987).

The one state threatened plant found in the designated corridor, Suksdorf's desert-parsley (*Lomatium suksdorfii*), also is classified as a category 2 federal candidate species and is on the list of sensitive species of the USDA Forest Service, Region 6 (USDA Forest Service, 1989).⁸ Suksdorf's desert-parsley also is a local endemic, occurring only in dry, open habitats in Klickitat County (WNHP, 1987; Hitchcock and Cronquist, 1973). Hood river milk-vetch (*Astragalus hoodinaus*), a state sensitive species, is a regional endemic, occurring only in upland areas in Klickitat and Benton counties. Another sensitive species, gooseberry-leaved alumroot (*Heuchera grossularifolia* var. *tenuifolia*), is found only in riparian areas in Klickitat County and the Columbia River Gorge (WNHP, 1987; Hitchcock and Cronquist, 1973). Along the lower Klickitat, there are 10 occurrences of Suksdorf's desert parsley, one of Hood River milk-vetch, and 21 of gooseberry-leaved alumroot. Suksdorf's desert-parsley is found primarily in the upper five miles of the corridor, while gooseberry-leaved alumroot is found mainly in the lower five miles. Sightings of the other three state sensitive species are scattered throughout the study section.

Habitat data and other sightings in the vicinity of the lower Klickitat River, suggest that 15 other plants (see Table 3-4) classified by the WNHP as endangered, threatened, or sensitive that may occur within the study section (USDA Forest Service, 1989). State endangered plants are species likely to become extinct in the near future in Washington if factors contributing to their population decline or habitat loss continue (WNHP, 1987). A total of four state listed threatened plants potentially occurring in the study section, long-bearded sego lily (*Calochortus longebarbatus*), pale blue-eyed grass (*Sisyrinchium sarmentosum*), Barrett's beardtongue (*Penstemon barrettiae*), and Oregon sullivantia (*Sullivantia*

8. Category 2 candidate species include taxa with information indicating that proposed listing as threatened or endangered is possibly appropriate, but substantial data on biological vulnerability and threats is lacking (50 CFR Part 17).

Table 3-3
Rare Plants in the Lower Klickitat Corridor¹

Species	Common Name	Federal ² status	R6 ² list	State ² Status	Distribution
<u>Astragalus hoodianus</u>	Hood River milk-vetch			S	Regional endemic
<u>Githopsis specularioides</u> ³	Common bluecup			S	Scattered
<u>Heuchera grossularifolia</u> var. <u>tenuifolia</u>	Gooseberry-leaved alumroot			S	Scattered
<u>Lomatium suksdorfii</u>	Suksdorf's desert-parsley	C2	S	T	Local endemic
<u>Meconella oregana</u>	White meconella			S	Scattered

1 Sources: Bakke et al., 1988; Land and Water Associates, 1989

2 S = sensitive; T = threatened; E = endangered; C2 = Category 2

3 Located between the mouth of the Klickitat River and Wide Sky Canyon, exact site unknown.

organa), also are classified as category 2 federal candidate species. Fourteen state listed species potentially occurring in the study area are also on the USDA Forest Service Region 6 list of sensitive species (USDA Forest Service, 1989;1990)

3.14 Wildlife

Big Game. Deer, the most common big game species in the lower Klickitat corridor, are a cross between black-tailed deer (Odocoileus hemionus columbianus) and mule deer (O. hemionus hemionus) (WDW, 1972). The lower section is not as important to wintering deer as the upper study section because of human disturbance, less varied topography, and fewer vegetation types (Land and Water Associates, 1989). Nonetheless, this area does contain abundant and diverse browse, including Oregon white oak, ceanothus, Oregon grape, and mock orange (Philadelphus lewisii) and supports both resident and wintering migratory deer. The river corridor is an important migration route for deer and other wildlife species. In addition, this area also probably supports black bear (Ursus americanus) and a few elk (Cervus elaphus) during severe winters.

Other Species. No wildlife studies have been conducted in the lower Klickitat corridor, but the area is known to support a wide variety of small mammals, passerine birds, upland gamebirds, and raptors. Common mammals probably include voles (Microtus spp.), the Nuttall's cottontail (Sylvilagus nuttalli), yellow-pine chipmunk

(Eutamias amoenus), and poreupine (Erethizon dorsatum). Furbearers, such as river otter (Lutra canadensis), beaver (Castor canadensis), and muskrat (Ondatra zibethicus) probably also occur.

Passerine birds in the lower study section most likely include the northern flicker (Colaptes auratus), Lewis' woodpecker (Asyndesmus lewis), hairy woodpecker (P. villosus), dusky flycatcher (Empidonax oberholseri), Steller's jay (Syanocitta stelleri), western bluebird (Sialia mexicana), yellow warbler (Dendroica petechia), American dipper (Cinelus mexicanus), and dark-eyed junco (Junco hyemalis). The blue grouse (Dendragapus canadensis), ruffed grouse (Bonasa umbellus), California quail (Lophortyx californica), chukar (Aleectoris chukar), and Merriam turkey (Meleagris gallopavo) are probably the most common upland gamebirds in the study section (WDW, 1972). The Merriam turkey, introduced into the Columbia Gorge, has survived well and expanded into other suitable lands such as the Klickitat River drainage. The oak/conifer stands found in the corridor provide important habitat for the turkey, which feeds on acorns and nuts. It roosts on the large limbs of ponderosa pine.

Raptors in the area likely include the red-tailed hawk (Buteo jamaicensis), golden eagle (Aquila chrysaetos), American kestrel (Falco sparverius), pygmy owl (Glaucidium gnoma), and great horned owl (Bubo virginianus).

Table 3-4
Rare Plants Species Potentially Occurring in the Lower Klickitat Corridor¹

Species	Common Name	Federal² Status	State² Status	Distribution
<u>Calochortus longebartus</u>	Long-bearded sego lily	C2	T	Regional endemic
<u>Collinsia sparsiflora</u>	Few-glowered collinsia		S	Peripheral
<u>Cyperipedium calceolus</u> var. <u>parviflorae</u>	Yellow lady-slipper		E	Scattered
<u>Cyperipedium fasciculatum</u>	Clustered lady's slipper		T	Scattered
<u>Cryptantha rostellata</u>	Beaked cryptantha		S	Peripheral
<u>Epipactis gigantea</u>	Giant helleborine		S	Scattered
<u>Hackelia diffusa</u> var. <u>diffusa</u>	Diffuse stickseed		S	Scattered
<u>Linanthus bakeri</u>	Baker's linanthus		S	Peripheral
<u>Lomatium laevigatum</u>	Smooth desert-parsley		S	Local endemic
<u>Mimulus pulsiferae</u>	Pulsifer's monkey-flower		S	Scattered
<u>Mimulus washingtonensis</u>	Washington monkey-flower		S	Scattered
<u>Navarretia tagetina</u>	Marigold navarretia		T	Peripheral
<u>Penstemon barrettiae</u>	Barrett's beardtongue	C2	T	Local endemic
<u>Sisyrinchium sarmentosum</u>	Pale blue-eyed grass	C2	T	Local endemic
<u>Sullivantia oregana</u>	Oregon sullivantia	C2	T	Local endemic

1 Source: Bakke et al. 1988; USDA, Forest Service, 1989

2 S = sensitive; T = threatened; E = endangered; C2 = Category 2

A wildlife study on a 25-mile stretch of the Klickitat River between Lyle and Stimpson Flats was conducted during the summer of 1989 (Manuwal, 1989). Fifty-eight bird species were recorded, including 43 in upland areas and 36 in riparian areas (some species were found in both areas). None of these species are state or federally listed as threatened, endangered or sensitive and none are included on the USDA Forest Service Region 6 list of Sensitive Species.

Sensitive, Threatened and Endangered Wildlife. One federally listed threatened species, the bald eagle (*Haliaeetus leucocephalus*), has been documented in the lower Klickitat corridor. The section also contains habitat for several state sensitive wildlife species. The peregrine falcon (*Falco peregrinus*), a federal endangered species, may also occur in the study section occasionally during the winter (USDA Forest Service, 1989).

A total of 44 bald eagle observations were made on the Klickitat and Little Klickitat rivers during aerial surveys conducted from mid-December 1988 to mid-March 1989 (Ichisaka et al., 1989). Abundance peaked at 12 eagles during the third week of January but remained fairly constant from mid-January until mid-March. Most of the eagles observed during the surveys were within the Klickitat Wildlife Area (41 percent) upstream from the designated segment or at the confluence of the Klickitat and Columbia rivers (29 percent).

Within the lower study section, a total of 13 bald eagle observations were made at the mouth of the Klickitat River and eight between RM 8 and RM 10. Most of the bald eagles sighted in the study section were probably associated with coho or chinook salmon (Oncorhynchus kisutch and O. tshawytscha) carcasses. During the surveys, bald eagles at the mouth of the Klickitat River were observed on two occasions successfully preying on live fish (Ichisaka et al., 1989).

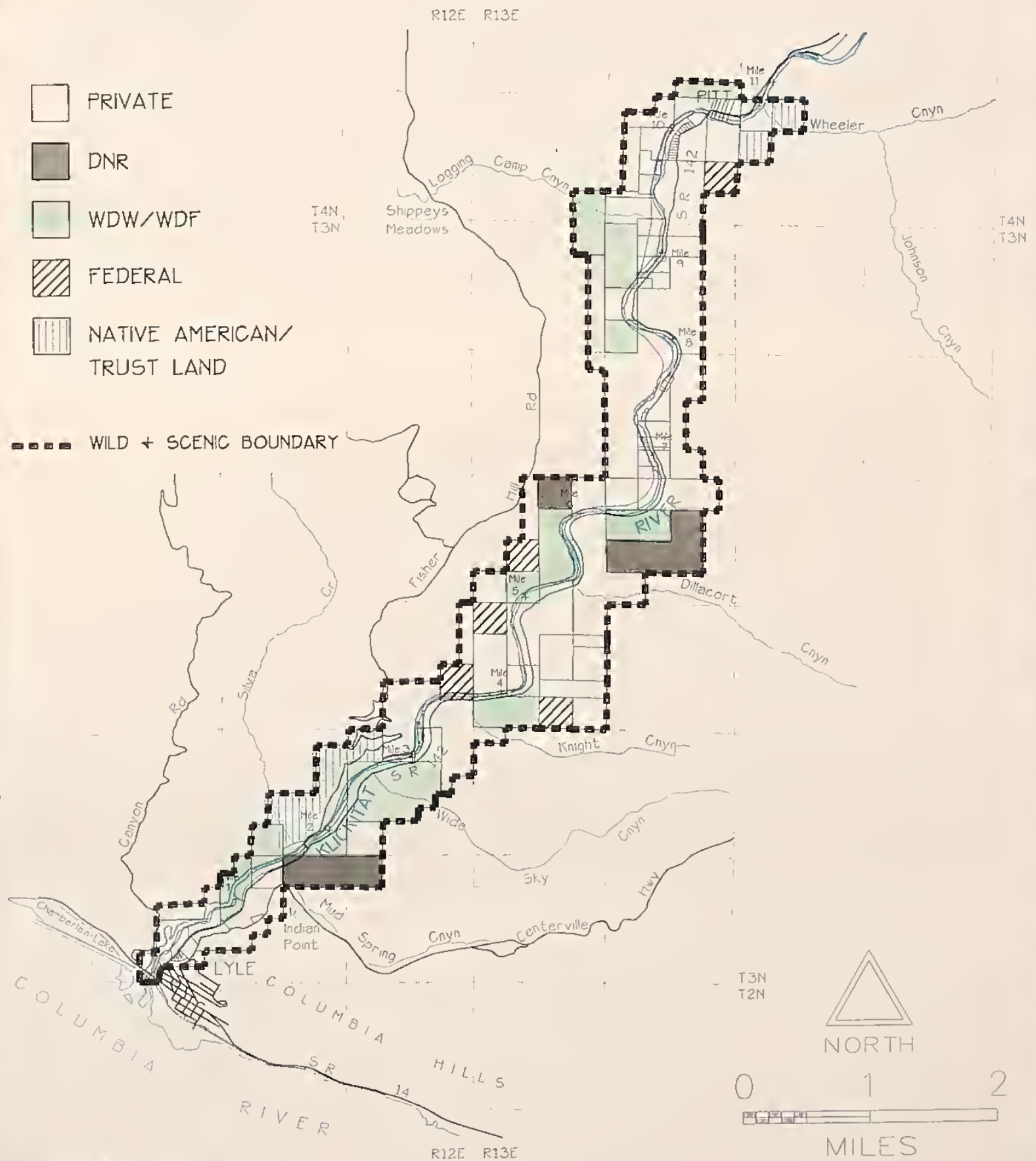
There are no suspected or confirmed bald eagle roost sites in or near the lower Klickitat corridor. The closest confirmed bald eagle roost site is in the upper Klickitat study segment upstream from the confluence of the Little Klickitat River (Land and Water Associates, 1989). This roost is used by 3 to 14 eagles and appears to be associated with several important forage areas nearby (Ichisaka et al., 1989). A smaller roost, used by as many as four bald eagles, is located along the Little Klickitat River.

Other Species of Concern. A pair of golden eagles, a proposed state sensitive species, has been documented nesting in a tree between Wide Sky and Wheeler canyons (RM 10.5) (Land and Water Associates, 1989). The river corridor also contains habitat suitable for another proposed state sensitive species, the western grey squirrel (Sciurus griscus), although it has not been sighted (Land and Water Associates, 1989).

Between the mouth of the Klickitat River and Wide Sky Canyon, the river corridor contains habitat suitable for the western pond turtle (Clemmys marmorata), a state threatened species, and the larch mountain salamander (Plethodon larselli), a proposed state threatened species (WDW, 1988). Both the western pond turtle and the larch mountain salamander also are category 2 federal candidate species. No sightings of either of these species have been documented (Land and Water Associates, 1989).

MAP 3-1

LAND OWNERSHIP






MAP 3-1

LAND USE

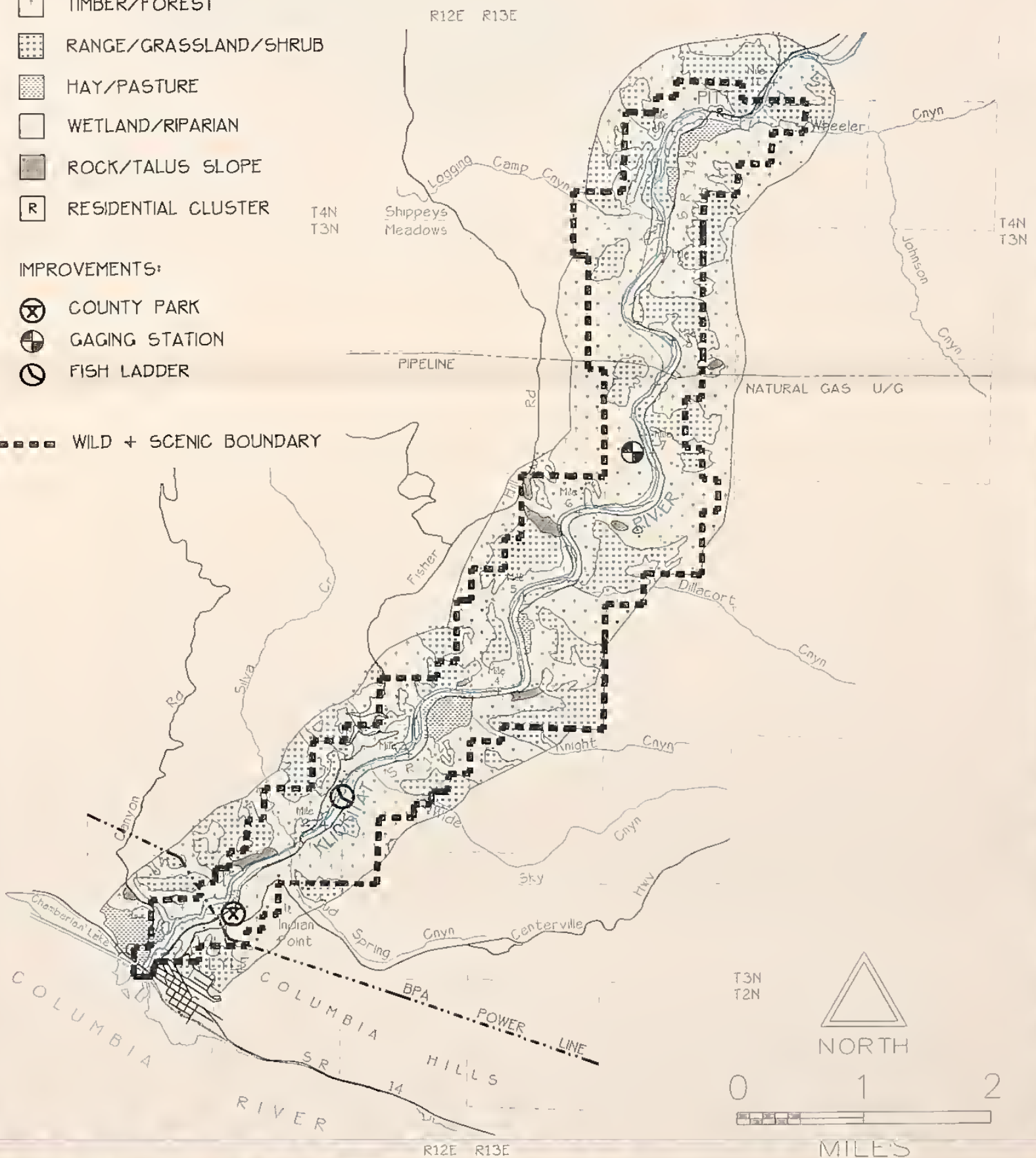
MAP 3-2

-  TIMBER/FOREST
-  RANGE/GRASSLAND/SHRUB
-  HAY/PASTURE
-  WETLAND/RIPARIAN
-  ROCK/TALUS SLOPE
-  RESIDENTIAL CLUSTER

IMPROVEMENTS:

-  COUNTY PARK
-  GAGING STATION
-  FISH LADDER

----- WILD + SCENIC BOUNDARY





MAP 3-2





LAND USE CONTROLS

MAP 3-3

COUNTY ZONING

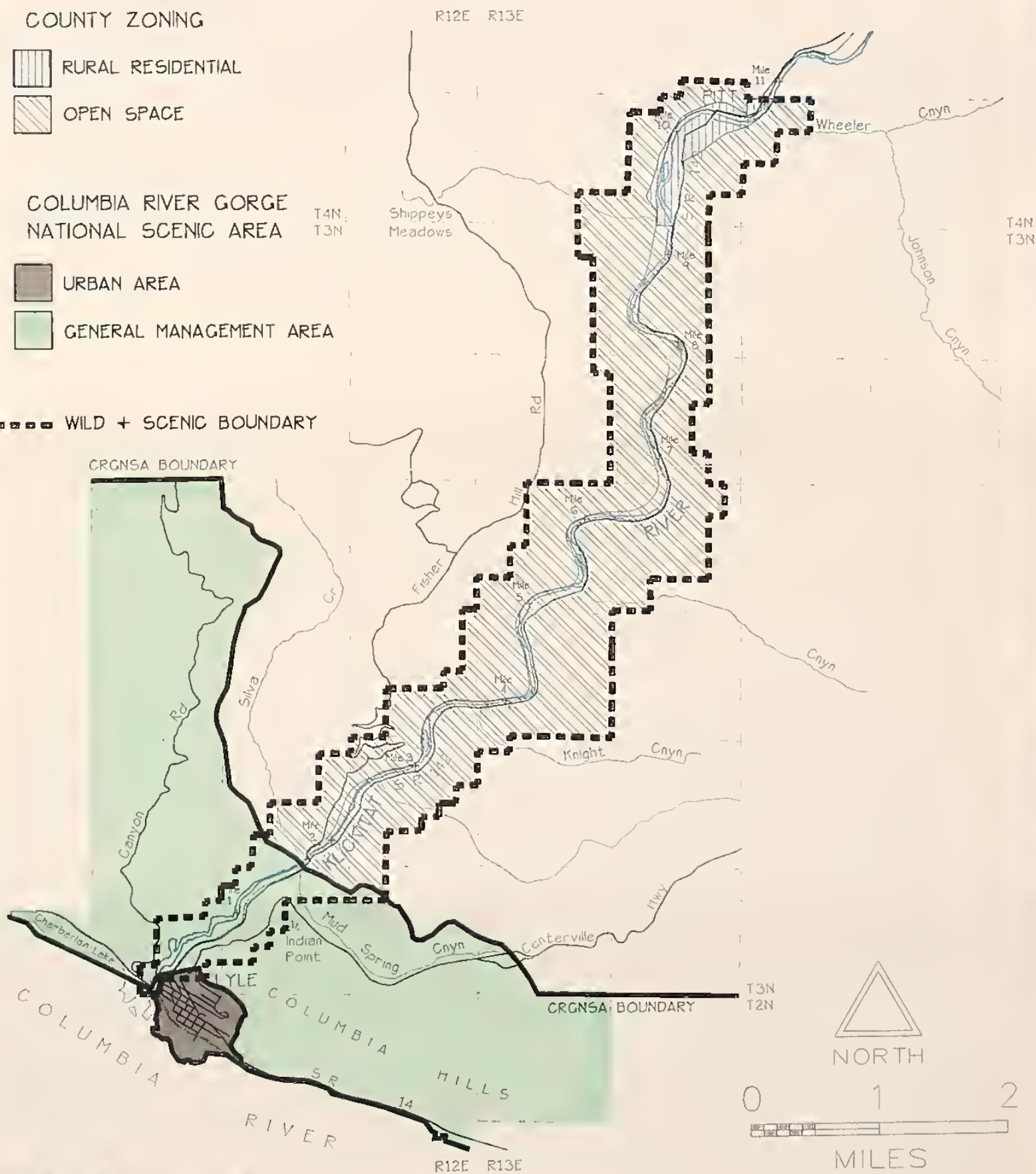
-  RURAL RESIDENTIAL
-  OPEN SPACE

COLUMBIA RIVER GORGE NATIONAL SCENIC AREA

-  URBAN AREA
-  GENERAL MANAGEMENT AREA

----- WILD + SCENIC BOUNDARY

CRGNSA BOUNDARY

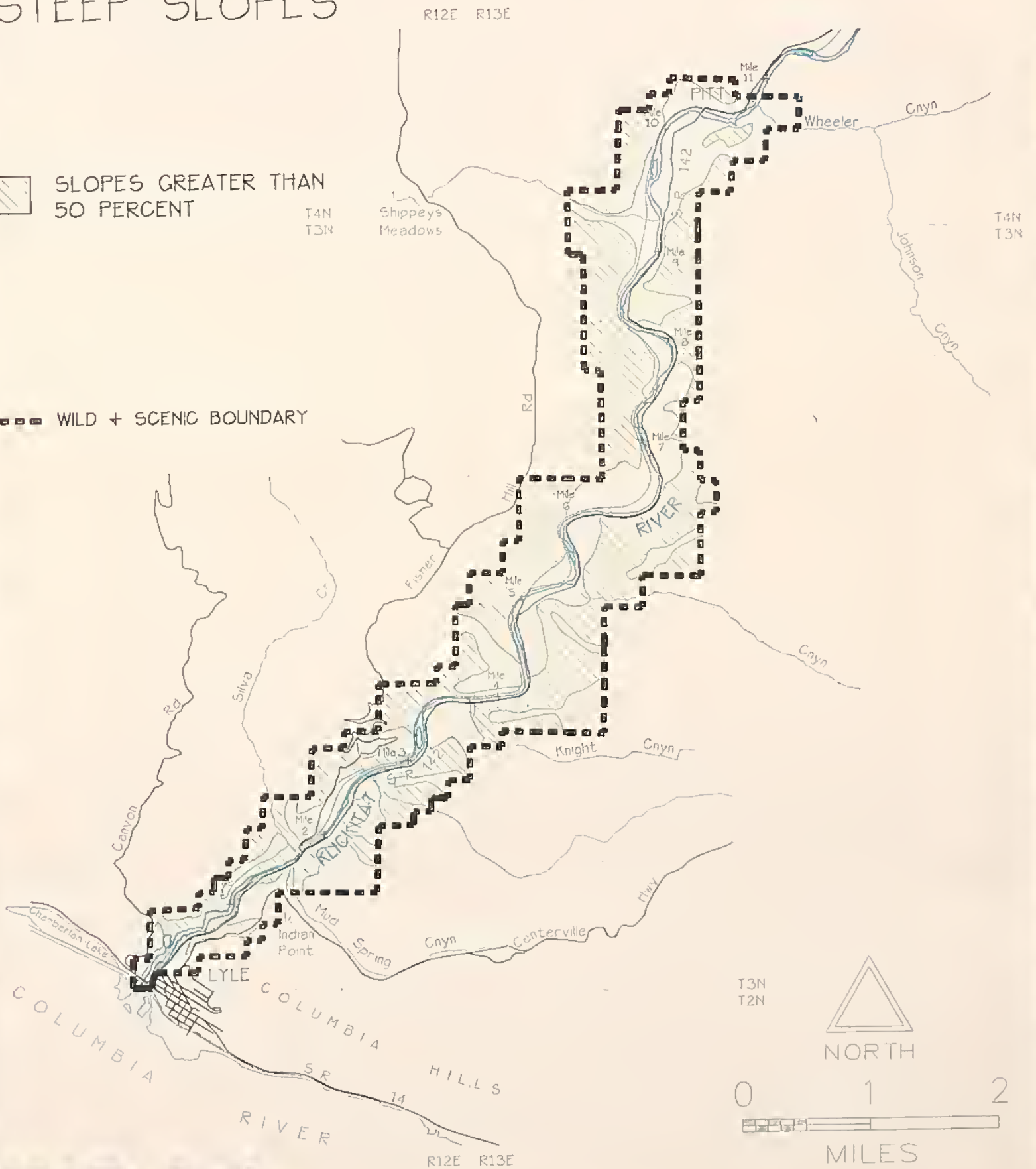


MAP 3-4

STEEP SLOPES

 SLOPES GREATER THAN 50 PERCENT

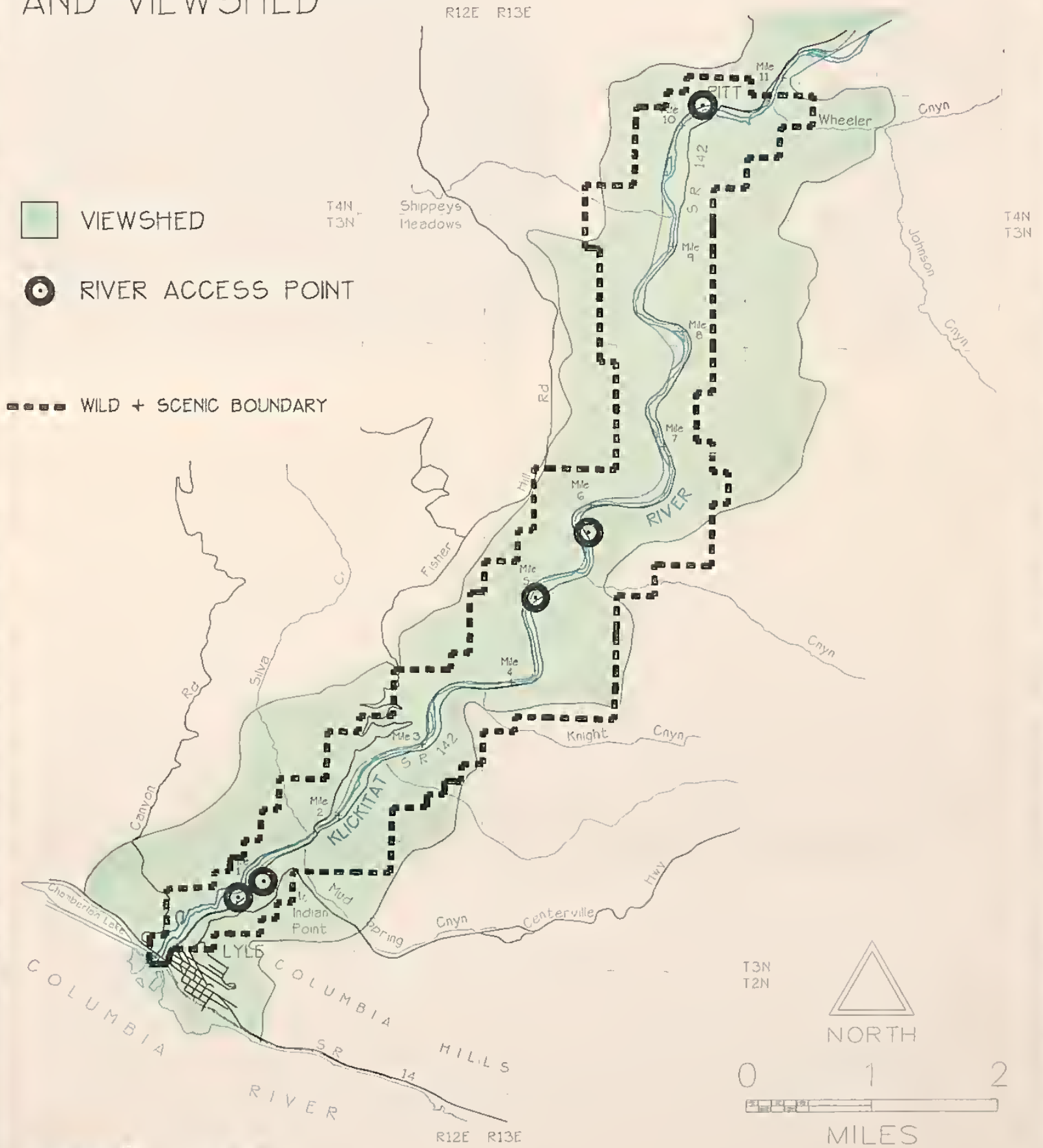
 WILD + SCENIC BOUNDARY



MAP 3-4

MAP 3-5

RECREATION SITES
AND VIEWSHED



MAP 3-5



CHAPTER 4

Environmental Consequences



After spilling out of the narrowest portion of the gorge, the Klickitat flows more gently toward the Columbia (view downstream near RM 1.1).

Each of the following sections begins with a brief introduction to the type and nature of potential impacts before discussing the consequences of each alternative. Alternative 1, the current situation, describes the impacts anticipated to the resource if no additional management actions are taken. Alternatives 2, 3, and 4 describe impacts to the resource given the actions that would be taken under that alternative (as described in Chapter 2). In most cases, mitigation efforts already have been built into the alternatives and so are not listed separately.

The alternatives are organized by the same categories used to describe the affected environment in Chapter 3 except that impacts to geology and soils are discussed under Water Quality and impacts to vegetation and wildlife are considered jointly. The order of presentation is changed slightly; impacts to land use and recreation are discussed first because these help to determine impacts to several other resource areas. Section 4.15 discusses cumulative impacts and the matrix in section 4.16 (the same matrix provided in the Summary) describes the impacts of each alternative as they relate to the seven key study issues.

4.1 Impacts to Residential Construction

Introduction. Housing is a basic human need and construction of housing can play an important role in the local economy. Residential development also can affect a wide range of physical, biological, and social resources. Some people who wish to protect the river are concerned that

9. *This number should be viewed as a theoretical maximum; many of these sites would be prohibitively expensive to build on unless housing demand in the immediate vicinity increases considerably. This estimate assumes that landowners would divide their lands into the minimum lot size allowed and would build as many houses as possible, that no further rezoning would take place, that agricultural exemptions (allowable housing for farm help) would not be utilized, that development would occur on steep slopes and in the 100-year floodplain (but not in the floodway), that road access to housing would be required, that access problems (such as bridging the Klickitat and building miles of road across steep slopes) would be solved, and that the CRGNSA proposed zones would be adopted.*

increased attention to the river may heighten other trends leading to increased demand for housing. Others are concerned that management will overly restrict their ability to build or expand their dwelling.

Alternative 1: Residential construction in the river corridor has been constrained by a limited supply of suitable building sites due to steep topography, flood potential, and poor road access to the west side of the river. Under current and proposed regulations, a maximum of approximately 150 additional houses could be built in the lower Klickitat corridor.⁹ Potential building sites are dispersed throughout the corridor on private lands in the valley bottom and upslopes. While many of these sites would be considered prohibitively expensive to build on today, increasing housing demand and rising regional land values will make them increasingly attractive.

Of the 150 sites, about 35 could be concentrated on 2-acre lots in a 135-acre area around Pitt, currently zoned Rural Residential (although landowners holding most of this area intend to continue farming their property). A 20-acre area in Lyle, designated an Urban Area under the CRGNSA, is already densely developed and could not accommodate much new development. Barring variances or a change in the proposed CRGNSA plan, there would be no other new residential development within the CRGNSA boundary (except for the five-acre area referenced in Chapter 3).

Alternative 2: Same as Alternative 1, except that a successful conservation easement donation program could reduce the number of houses that would be built.

Alternative 3: A maximum of about 55 new houses could be constructed (subject to the assumptions listed under Alternative 1). Most could be built on the upslopes and screened; some expansion of existing clusters of houses could be visible from the highway.

Future development on 60 of the 150 potential building sites described under Alternative 1 would be precluded by new county regulations prohibiting residential construction or road building on slopes steeper than 50 percent within the corridor (48 potential house sites are on slopes steeper than 50 percent and 12 others would require access across 50 percent slopes or would require new bridges over the Klickitat; three of these 12 sites may be within the floodway and therefore not buildable anyway). The county also would reduce the size of the rural residential area around Pitt, reducing housing potential by about 25 sites.

Alternative 3 requires that new structures not be substantially visible from the river, recreation sites, or Highway 142 (except in areas with existing clusters of houses). Increased county road setbacks and the expanded river buffer would likely not reduce the number of houses that could be built, but would keep houses farther away from the road and river. Scenic easements specifying housing placement would be

purchased for several building sites; voluntary agreements would be sought first. Development rights or fee title would be purchased on several more potential building sites which could not be screened from view. An estimated total amount of \$134,400 - \$174,250 would be paid (fair market value) to landowners for the easements and fee title purchases.

New county regulations would require the retention of vegetation for screening on 30 potential building sites. Agreements would be sought with property owners to reduce visual impacts of existing development on five lots and to allow planting of screening vegetation on four other building sites as well as at Steelhead Run, a riverside subdivision of small lots at RM 10 for seasonal parking of recreational vehicles. Funding for planting would be provided so there would be little additional cost to landowners.

Alternative 4: A maximum of about 35 new houses could be constructed (subject to the same assumptions). Development generally would be dispersed throughout the corridor, as in Alternative 3, but existing clusters of houses would not be expanded.

The county would restrict development on steep slopes, as in Alternative 3. Development rights or fee title would be purchased on about 20 potential building sites, plus on the 135-acre area near Pitt zoned Rural Residential. Easements or land in fee title would be purchased to preclude recreational vehicles from Steelhead Run. Scenic easements would be purchased on about half of the 30 sites on which the county would have required vegetative retention in Alternative 3 (this assumes the other half would be voluntarily screened by home builders). Agreements, easements or fee title would be sought to reduce visual impacts of existing development at several sites within the corridor.

4.2 Impacts to Timber Harvest Activities

Introduction. Any impacts to timber harvest could have effects not just locally, but could contribute to cumulative impacts to logging, a highly sensitive issue in the Pacific Northwest.

Alternative 1: Nearly all of the 2,500 forested acres in the lower Klickitat corridor consists of rugged, poorly-accessed terrain and tree species (oak) of low economic value and small diameter. A few stands of mature ponderosa pine, some of which abut the river on gentle terraces, are more commercially attractive. Several areas of large-diameter oak stands on operable terrain may support a commercial firewood harvest, and many areas would support cutting of individual oak trees for personal use (firewood). Harvest would be subject to existing Forest Practices and Shorelines Master Plan regulations described in Chapter 3.

Alternative 2: Timber owners would be encouraged and provided with technical assistance to voluntarily design any planned cuts to reduce impacts to river values. Technical assistance would be provided by a variety of state and federal agencies. The current use tax program would be expanded to include conservation of Oregon white oak stands as a valid use for designated open space. Government agencies would work cooperatively to develop and implement an oak conservation and management program (allowing but guiding oak harvesting). These actions could result in lower levels of timber harvest.

Alternative 3: Conservation easements to protect visual quality would be purchased on four areas of conifer forest totalling 200 acres. Easements would require uneven-aged timber management or even-aged management where clearcut areas were small and screened from view. Yields from either of these management schemes could be lower than those from large clear cuts. Assuming an average volume of 20,000 board-feet per acre and an allowable initial harvest of 50 percent, potential short-term (10 years) timber harvest could be reduced by about 2 mmbf. Total timber harvest in Klickitat County was about 128 million board feet in 1988 (about 55 percent of this total occurred on private lands), and 120 million board feet in 1989 (70 percent on private lands). Reductions in timber harvest would be mitigated by payments to timber owners for the easements, estimated to be about \$330,000.

Fee title or easements would be purchased on 200 acres of Oregon white oak stands (the oak conservation plan would identify parameters for selection of worthy stands). Fee title or easements also would be purchased on 50 acres to protect sensitive plant species (some of which would not contain commercially harvestable timber). An estimated total of \$105,500 - \$178,000 would be paid to landowners for these purchases.

In addition, the county would require retention of vegetation at existing and future residential sites and expand the width of the river buffer. These actions could slightly reduce timber harvests compared to Alternative 2. Restrictions on residential development may result in the retention of forest lands that might otherwise have been converted.

Alternative 4: Full timber rights would be purchased for 200 acres of conifers in order to protect visual and ecological values. This would reduce potential short-term timber harvest by about four million board feet. This would be mitigated by payments for the easements, estimated to be about \$660,000.

Fee title or easements would be purchased for as much as 400 acres of oak stands and 100 acres supporting sensitive plant species. Remaining timber rights on about 100 acres already restricted by the Shorelines Master Plan would be purchased to expand the width of the river buffer. These programs would have little effect on commercial timber harvest. An estimated

total of \$192,450 - \$277,250 would be paid to landowners for these rights.

The oak conservation plan, implemented on a voluntary basis, could reduce oak harvest. Restrictions on residential development may result in the retention of forest lands that might otherwise have been converted.

4.3 Impacts to Agriculture and Grazing

Introduction. Potential impacts to agriculture and grazing are a concern because people depend on the viability of these activities, which also help to define the current character of the river corridor.

Alternative 1: Intensive agricultural practices are allowed in the corridor and non-intensive grazing is allowed in the shorelines area. Through existing SCS/ASCS programs, landowners can benefit from assistance (technical and monetary) geared toward reducing potential grazing impacts. Grazing has not increased in the recent past and is expected to remain near current levels.

Alternative 2: Agriculture and grazing as currently practiced would not be restricted, but additional sources of technical assistance and funding may become available. New water diversion structures usually would be prohibited, limiting new or expanded land uses requiring substantial amounts of water. The eventual setting of minimum instream flows may foreclose new requests to use water for expanded or new grazing or agricultural operations (although the river is currently not overallocated).

Alternative 3: Similar to Alternative 2. Federal funding would be available to fence cows away from the river or with significant rare plants values, potentially requiring a change in grazing practices.

Alternative 4: Same as Alternative 3.

4.4 Impacts to Recreation Opportunities and Public Access

Introduction. Recreation opportunities are made up of the physical and biological environment (including the character of the landscape, level and type of development present, and fish and wildlife), the social environment (the amount and type of people who use the recreation setting, what activities they do, and what type of experiences they have), and the managerial environment (the level, type, and location of public access, facilities and improvements, interpretation and education efforts, and onsite and offsite regulations).

Changes in any of these characteristics could change the type of recreation that takes place in a recreation setting such as the lower Kliekitat River corridor. Interpreting the significance of these changes requires sound baseline data on recreational use of the river corridor. These types of baseline data currently are not available for recreation use on the lower Kliekitat. Without good data, it is difficult to judge the magnitude and significance of changes in recreation use of the river corridor, or to judge the effectiveness of management. This lack of data makes it difficult to be very specific about the effects of each alternative on some recreation opportunities. As described below, some of the alternatives are better-suited to provide this baseline information.

Alternative 1: A lack of coordinated management of the county parks and other recreation sites has resulted in considerable physical impacts to these areas. Under existing management, there are no provisions for monitoring boating use patterns, conflicts, facility and access needs, and other key characteristics of recreational use. There would be no guarantee of continued access to private lands currently used for recreation. Existing state and county management programs do not systematically monitor physical conditions of the river area used by recreationists, actual levels of river oriented recreation use, or the impacts of recreation on private land owners. Public information is limited to access signs and no visitor information or education plan is being developed.

As described in Chapter 3, the number of people camping, fishing, boating, and participating in other activities along the river is expected to increase. The lack of coordinated management means that any increases in use would be uncontrolled. Physical impacts would likely include ground disturbance, litter, bank erosion, fire rings, and related problems. The potential for a greater number of incidents of recreation-related trespass and vandalism, wildfires and traffic problems would increase. Competition and conflict between recreationists for river access, fishing holes, campsites and use areas also could increase with use.

The river currently appears to be well below its capacity for recreational use so these problems may not become substantial in the short term. However, long-term unacceptable impacts would occur without additional management. A related problem is that data on use patterns and trends are inadequate to address specific capacity issues and would not be collected under this alternative. Without adequate use information, it is impossible to determine the relationships between use patterns and impacts or to integrate visitor preferences into future recreation management actions.

The county's search and rescue program is currently being revised but funding remains a limitation. The Forest Service is contributing to this revision but adequate long-term funds cannot be guaranteed.

New residential or commercial development could affect recreation by degrading the scenic quality and natural

character of the river valley and increasing the potential for conflicts between recreation visitors and landowners.

As of July 1, 1990, people or companies are required to obtain a special use permit from the Forest Service in order to begin or continue using the river for commercial purposes. Outfitters currently operating on the river may continue, and new outfitters also can receive permits, which are being issued on a one-year basis until the management plan is implemented. Limits on the number of outfitters would not be instituted unless the recreation monitoring process showed that use needed to be regulated and other means of addressing the problem had failed. Impacts to guiding and outfitting services include increased costs (such as a fee of three percent of adjusted gross revenues) increased record-keeping, insurance requirements, and possible future regulations on group size and other characteristics. Outfitter benefits stemming from permitting should include long-term use of the river and provisions to keep unsafe or unscrupulous outfitters off the river.

Alternative 2: Recreation use levels could increase slightly above the level described under Alternative 1 because of limited improvements in access and facilities. The increased coordination, funding, and recreation management authority would make the county and state better able to address anticipated changes in use patterns and manage use.

Management would be designed to maintain and enhance existing recreational opportunities, rather than create new ones. There would be additional coordination of recreation management in the river corridor, increasing the likelihood that increases in use levels or other changes could be addressed before problems were evident. The Yakima Indian Nation would be represented on the Scenic River Council, increasing impacts coordination with management of the gorge section.

Use patterns and physical conditions would be monitored to let the Scenic Rivers Council know about trends in fishing (and other recreational uses) in the corridor and how those uses are affecting physical and biological resources. Federal designation and oversight would provide additional ability to manage on-water recreational use such as boating. Coordinated management also would help guarantee continued and legal access at heavily used sites on private lands through acquisition of lands or easements.

Steering recreationists toward public access sites with limited information and signing would reduce impacts to private lands, reduce incidents of trespass and help reduce the likelihood of conflicts among recreationists. Landowners continuing to

have problems would have a central, coordinating authority to contact (the river ranger or local Scenic Rivers Council representatives), so they wouldn't have to assume an enforcement role. Voluntary landowner regulation of corridor activities such as timber harvest and residential construction could reduce impacts to scenery.

Search and rescue operations would continue to be conducted by the sheriff. Increased technical assistance and training for personnel would increase the viability of search and rescue operations.

Commercial recreational uses such as guiding and outfitting in the river corridor would be continue to be subject to permit by the Forest Service.

Alternative 3: Recreation use levels would increase slightly above the level described under Alternative 1 because of improvements in access and facilities. Acquisition would guarantee continued access at heavily used sites outside of public lands. The increased coordination, funding, and recreation management authority would make the county, state, and Forest Service better able to address anticipated changes in use patterns and provide necessary improvements to access sites and facilities. The Yakima Indian Nation would be represented on the Management Committee, increasing the likelihood of coordination with management of the gorge area.

Recreation opportunities would be enhanced compared to Alternative 2, not by providing new opportunities, but by additional funding and better monitoring of recreation use. Funding would be available to conduct a comprehensive monitoring program to manage the social, physical, and biological impacts of recreation use, maintaining desired



State of Washington angler information sign next to railroad tracks near RM 1.1 (where a short, steep trail from Highway 142 provides access to rocky benches and trails along the river)

conditions and preventing unacceptable degradation. Management would be geared toward achieving and maintaining desired conditions, not limiting use at some arbitrary level. Use level limits are not expected to be needed in the foreseeable future; they would be implemented only if other, less restrictive measures did not meet objectives. Federal designation permits management of on-water recreational use such as boating, providing a mechanism for regulating use should it be needed.

The full-time river manager and seasonal river ranger would accomplish many of these goals by performing a wide range of tasks, including public education and assistance, landowner contact, enforcement, site maintenance, and search and rescue coordination. Experience on other rivers has shown that having an active management presence on the river is an effective management tool.

Fishing use levels could increase slightly above the baseline because of increased publicity, facility and site improvements, and guaranteed long-term access to key river sites. The monitoring program would provide information on use patterns needed to help the state set fishing regulations to protect fish populations.

This alternative could increase the number of regulations governing recreational use by private (non-commercial) boaters; currently, there are no such regulations except at developed sites. The consequence would be that people could not do whatever they wanted. Regulations would be designed to protect the environment and maintain or increase the quality of peoples' experiences. Indirect management measures such as signs and visitor education would be favored over direct regulations such as restrictions on use levels, which would be used only if indirect measures failed to achieve the desired goal.

A limited public information and education effort would help reduce physical impacts caused by recreationists and would help to reduce conflicts between recreation users. Increased signing and development of pullouts along State Highway 142 would enhance sightseeing opportunities and traffic safety. Interpretive signing or information concerning the Native American dip-net fishery would help develop public awareness and appreciation for this resource. This would be designed in cooperation with Native Americans to avoid impacts to dip-net fishing operations.

As described under Alternative 2, directing recreationists toward public access sites would help reduce impacts to private lands and incidents of trespass. Landowners continuing to have problems would have a central, coordinating authority to contact, so they wouldn't have to assume an enforcement role. Purchase of easements or lands to minimize the impacts of activities such as timber harvest and residential construction would reduce impacts to scenery, maintaining the river's natural character and enhancing aesthetic experiences.

Search and rescue operations would continue to be conducted by the sheriff. Increased funding and technical assistance would improve search and rescue operations.

Commercial recreational uses such as guiding and outfitting in the river corridor would be subject to permit by the Forest Service and managing committee. Outfitters and guides would be subject to the same impacts mentioned under Alternative 1.

This alternative also provides the funding and mechanisms for taking advantage of future opportunities. For example, at sometime in the future, Burlington Northern may abandon its rail operations. Federal involvement would increase the likelihood that these lands or facilities could be acquired and managed to maintain desired recreation opportunities. It is not possible at this point to say how any acquired lands should be managed, only that management would be consistent with objectives.

Alternative 4: Similar to Alternative 3 except that use levels would be expected to increase moderately because of increased access development and publicity. This use would not be allowed to degrade outstanding corridor resources such as fish or the lower gorge area. The recreation monitoring and management framework would be designed to accommodate increased use while protecting resources. Limits on use numbers would be used only a last resort and are not anticipated to be needed in the foreseeable future. Federal designation provides for management of on-water recreational use such as boating, providing a mechanism for regulating use should it be needed.

Additional recreation site expansion and facility improvements as described in Chapter 2 would enhance existing recreation opportunities. Other recreation opportunities, such as hiking, biking, camping, sightseeing, and nature study would be expanded and enhanced through additional public information, and, in the future, possible development of new trails to and along the river.

4.5 Impacts to Visual Resources

Introduction. Scenic quality on the lower Kliekitat varies due to manmade structures and disturbances that contrast with existing riverscape, pastoral, and forest settings as seen from the roads, river, shoreline recreation areas, and houses. This level of development is reflected by the classification as a Recreation river segment (see Chapter 1). Assessment of impacts under the four management alternatives included evaluation not only for preservation of existing character but also for potential enhancement of visual quality. Therefore, management actions were analyzed for their ability to provide enhancement where visual quality problems exist, particularly within the foreground as seen from the river and roads.

Because the designated boundaries do not encompass the viewshed, any management alternative's ability to protect views would be limited. Less than 50 percent of the viewshed is within the designated boundary on the lower 1.5 miles. From RM 1.5 to 2.5, approximately 50 percent of the viewshed is within the boundary. From RM 2.5 to 6.5, approximately 75 percent of the viewshed is within the boundary. From RM 6.5 to 10.8, less than 50 percent of the viewshed is within the boundary. Scenic quality in the middleground and beyond could be impaired by residential development, particularly on horizon lines, and by large clearcuts or land conversions.

Alternative 1: Under existing and proposed regulations, visual quality of the lower Klickitat corridor will probably not change dramatically until housing demand and timber prices increase significantly. For the next few years, sporadic home construction on a few sites, most of which would be within view of the river and/or highway, would slightly increase the developed character of the corridor. Viewers on the river or highway would see two areas of clustered housing (the northern two miles of the corridor, and the area near Lyle), as well as occasional homes in between. Views of forested areas would be degraded slightly by clearing for new housing.

The lower 1.5 miles within the CRGNSA probably would receive adequate scenic protection under existing management. Under current planning, the east bank would serve as a transition zone between the river and the town of Lyle. Residential and commercial recreation development would be allowed but proposals would have to go through a design review to make sure development would be visually subordinate to its setting. The west bank would be zoned open space, where residential and commercial development would not be allowed. Active management is not planned for scenic cultural and historic features such as the Highway 14 bridge, the railroad bridges and right-of-way (ROW), the barns, and Fisher Hill road—all important landscape components but not registered historic or archaeological sites.

The upper 8.7 miles of the river corridor could be altered considerably. In the long term, more intensive development of the corridor would likely occur, with new housing locating on unscreened side slopes as well as along the river. Many of the conifer stands along the river would be altered by timber harvest. The character of the river corridor would change from rural/natural to rural residential.

Klickitat County's zoning and shorelines management would partially protect scenic values along the river. One hundred-foot setbacks from the river and fifty-foot riparian buffers would protect shoreline aesthetic quality. Minimum lot size varies from 20 acres to 6,000 square feet. No architecture or design review regulations currently exist; concerns are with building safety, not aesthetics. If all lots on the lower river were built upon, the visual impacts would significantly mar existing scenic values for river visitors.

No system exists to address the increasing numbers of recreation visitors, which eventually could reduce opportunities for solitude, wildlife observation, and other activities, as well as disrupting sensitive natural landscapes.

Alternative 2: Short-term impacts to visual quality would be much the same as under Alternative 1, but new housing would be less obtrusive. In the long term, while there would be fewer views dominated by housing, one's overall impression would be similar to Alternative 1 — that of a rural residential corridor.

State Scenic Rivers designation would serve to place greater agency and public emphasis on the management of the scenic resources along the lower Klickitat River. The Washington Department of State Parks would coordinate federal, state and local agency actions, priorities and management within the boundaries. The State Scenic Rivers program would involve residents and users in developing a management plan which would help meet the scenic needs of property owners as well as visitors. A new coordinated effort may result in voluntary scenic resource protection programs within the viewsheds. However, there would be no legal protection from incongruent uses and activities on private lands, so the visual quality objective of partial retention may not be met without additional action by the Forest Service.

Other local and state actions could help to maintain many of the corridor's aesthetic qualities. The Washington Department of Transportation could designate Highway 142 a State Scenic Highway, which could result in improved ROW vegetation management and overlook development. Funding would be provided for water quality monitoring and enforcement, wildlife and fishing habitat improvements, and recreation acquisitions, development and management, all of which would serve scenic resources. Scenic and trail easements could be donated or designated. Agricultural, residential and recreational properties could be maintained to protect scenic qualities as seen from the river and roads. Voluntary river cleanup programs could be implemented at popular access sites.

Alternative 3: The general visual character of the corridor would be maintained. A few new houses would likely be visible from road and river in the next few years; over time, a slight expansion of existing housing clusters would be evident, while glimpses of structures through the trees would be more common. The nature and extent of forested views would remain largely intact, and the appearance of some existing structures could be improved.

Significant scenic resource benefits of Alternative 3's management include a greater focus on scenic resource protection, with federal authority and funding for in-fee title and easement acquisitions.

Conservation easements would be used to meet visual objectives on the most commercially attractive forest lands,

reducing the potential impacts of timber harvest. The purchase of development rights or easements from existing property owners would reduce the visual impacts of potential residential development in visually sensitive areas, while allowing development to occur on less sensitive sites outside the viewshed. The oak conservation program described under upland resources would aid scenic protection.

Public access and recreational facilities would be improved and visitor impacts actively managed, providing enhanced viewing opportunities while reducing the visual impacts of recreational use.

Alternative 4: The character of the corridor would be maintained and in some instances enhanced. Fewer new houses would be noticeable from river and road than under Alternative 3. The nature and extent of forested views would be preserved, and the appearance of some existing structures would be improved.

Impacts would be similar to those under Alternative 3, but with additional visual resource enhancement and opportunities for public viewing. The management actions described in Chapter 2 would result in superior scenic resource protection within the designated boundaries.

4.6 Impacts to Native American Traditional Uses and Archaeological and Historical Resources

Introduction. The Native American dip-net fishery in the Klickitat River gorge is an outstanding cultural resource. For Native Americans, the fishery provides a source of sustenance as well as a link to a long tradition. For others living in the area, and indeed for all citizens, the fishery is a cultural resource of major educational and historical significance. People concerned with the river appear united in their desire to perpetuate traditional uses and protect cultural resources in the river corridor.

Alternative 1: To date there has been little conflict between protection of cultural resources and other uses of the river and its shorelands. Native American access to the river for hunting, fishing, or other uses currently is not an issue. Native American trust lands and public lands will continue to provide Native Americans with access to the gorge and the river's mouth. Access to these and other areas for fishing is guaranteed by treaty and subsequent court decisions. Access by Native Americans to areas traditionally used for religious purposes also is only guaranteed on federal and trust lands.

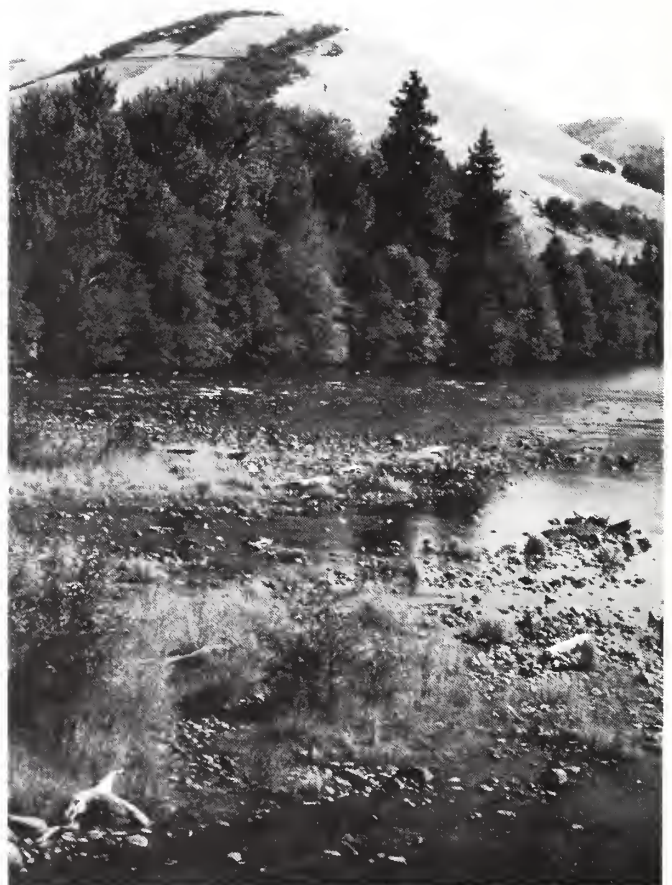
Trust lands near the gorge are owned by individual members of the Tribe. While it is theoretically possible that these lands could be sold or developed, the restrictions placed on sale or development of trust lands along the gorge virtually assure that these lands will remain in Native American ownership

and that they will continue to be used by Tribal members for the traditional purposes of fishing, camping, and gatherings.

Archaeological and historical resources would be managed and protected according to existing federal and state law. State laws prohibit disturbance to Indian burial sites and restrict disturbance of archaeological sites. Review would be required on a case-by-case basis for any federal or state project or a project requiring federal or state permits.

No surveys would be conducted except in response to development projects and as required by law. The overall knowledge of river related cultural resources would remain limited, so no actions could be implemented to protect yet unknown resources. Some areas along the river, notably the gorge, are protected from impacts to cultural resources by virtue of steep terrain and Native American and state ownership. Other areas with cultural resource significance, including the area near the mouth, are considerably more vulnerable. Lacking a survey of the Klickitat village site, it is difficult to predict its vulnerability.

Recreational use of the river is predicted to increase. Expanded use could increase the potential for harm to any cultural resources which might be in the area, although the lack of above-ground evidence of sites prohibits willful



Riparian vegetation near RM 8.

vandalism. Increased use of the gorge area by sport anglers or boaters could conflict with Native American traditional uses.

Alternative 2: The effects on cultural resources and on Native American rights and traditional uses would be the same as those of Alternative 1 except that on-site cultural inventories would be conducted prior to making recreational improvements, thereby diminishing the potential for affecting cultural sites that may be associated with any area slated for recreational site development. Improved safety measures would be designed to decrease the risk of accidents to dip-net anglers.

Alternative 3: Opportunities for Native Americans to practice traditional dip-net fishing and to use the gorge area for gatherings would be enhanced compared to Alternatives 1 and 2 due to development and implementation of a site plan for the gorge. Recreation management would be designed to avoid conflicts with or other impacts to the gorge area and dip-net fishing. Otherwise, traditional use opportunities would be the same as those in Alternatives 1 and 2.

Protection of archaeological and historical resources would be strengthened considerably. An archival inventory of cultural sites would be conducted, as well as on-the-ground surveys of public lands and, with permission, private lands. The knowledge gained would help to focus attention on the resources in need of protection. Site plans would be developed for high priority sites, which could be acquired if necessary for protection sometime in the future. Consultation with the Yakima Indian Nation would help to ensure that sites of significance to Native Americans would be identified and protected. Site plans would be developed for high priority sites including the gorge, and sensitive sites would be closely monitored to ensure they were being protected. Increased local zoning controls also would promote protection of cultural resources found in the immediate river vicinity. Recreation management actions would help to lessen the potential for impact to cultural resources.

Alternative 4: Effects on Native American traditional uses would be the same as with Alternative 3 except for the possibility of increased conflict between these uses and use by boaters, anglers, or sightseers. These conflicts would likely be mitigated through recreation management actions undertaken with the assistance of the Yakima Indian Nation and local Native Americans. Recreation management would be designed to avoid conflicts with or other impacts to the gorge area and dip-net fishing.

Known archaeological and historic resources would be afforded the same protection as under Alternative 3. Additional protection would result from more-detailed site inventory and added protection measures. Consultation with the Yakima Indian Nation would help to ensure that sites of significance to Native Americans would be identified and protected. All eligible sites would be recommended for

registration as national or state historic places. This would guarantee that the state Historic Preservation Office and the National Park Service have input into development that could harm significant sites. These sites also would be given priority for federal acquisition, which would be more extensive than under Alternative 3.

This alternative includes improvements to recreational facilities, potentially increasing impacts to cultural resources. The knowledge gained on cultural resources through inventory would be used to help design recreational facilities that would not adversely effect cultural resources. Interpretation of dip-net fishing practices would increase public appreciation for this valuable resource and would be designed to avoid impacts to dip-net fishing. Interpretation, in fact, could reduce impacts below that of the other alternatives because people would gain sensitivity to the dip-net process and would be encouraged to view the gorge from a designated location chosen to avoid conflicts.

4.7 Impacts to Fish and Instream Resources

This section is divided into three parts: impacts to streamflow and water quality; impacts to anadromous fish; and impacts to resident fish.

4.8 Impacts to Streamflow and Water Quality

Introduction. As the size of the regional population increases, so does the potential for stream side development, water withdrawals to provide drinking water, and septic runoff, potentially resulting in reduced river flows and decreased water quality. Additional agricultural use of the region could increase turbidity and fecal coliform levels in the river due to increased grazing in the riparian zone. Irrigation withdrawals could further decrease flows, and runoff from farmlands could increase concentrations of salts, heavy metals, and turbidity in the river.

Logging, road construction, agriculture, grazing, and development of residences and recreation sites could increase rates of erosion and sediment transport by disrupting soil and vegetation. Removal of soil protection and the water-retention capabilities of vegetation, accompanied by ground disturbance and compaction, exposes soil to erosional forces that carry sediment to the river. Water withdrawals and loss of stream side overhanging vegetation also tend to increase water temperatures. Logging in the upper watershed also could contribute to the sediment loads in the river, although following state best management practices would reduce the risk of adverse effects.

Alternative 1: Under existing management, the Shorelines Master Plan (with proposed revisions) restricts development and timber harvest. Vegetation is largely

protected along the streambed on state lands, which constitute approximately 25 percent of the riparian lands in the river corridor. Grazing in the shorelines area is not prohibited but is not intensive and is not likely to increase significantly. Water quality in the river is likely to be most affected by logging and other activities upstream from the study segment and along tributaries to the river. Current logging practices throughout the 1,350 square mile watershed use required erosion and sedimentation control measures that reduce sediment loads to the river.

Limits placed on logging in the river corridor—which comprises less than one percent of the watershed area—would result in only a minor reduction in the sedimentation rate. Residential construction could increase substantially, which could result in an increase in erosion and sedimentation. The degree of sedimentation increase will be directly related to the degree of disturbance of existing vegetation, the rate of revegetation, and erosion controls employed during construction.

The Klickitat River Subbasin Salmon and Steelhead Production Plan includes recommendations for watershed-wide programs and practices that would help to control activities which could affect water quality and quantity in the Klickitat River. Implementation of the Subbasin Plan, expected in 1991, will further enhance water quality.

The state has not established minimum instream flows for the Klickitat, and there is little data to help suggest what those flows should be. Overallocation or low flows due to water withdrawals currently is not a problem in the mainstem, and the potential for future withdrawal is limited. Most of the Klickitat's headwaters and the upper river are part of the Yakima Indian Reservation or the state's Klickitat Wildlife Area, limiting the potential for future upstream withdrawals that could dewater the lower river, especially given commitment to restoration of the anadromous fishery. There is potential that future diversions from tributaries could reduce flows in the lower river. The lack of a systematic water quality or quantity monitoring program hampers efforts to adequately manage stream conditions.

Alternative 2: Monitoring of water quality and flows would provide information needed to establish firmer objectives and to measure progress toward attaining them. Public education on protection of water quality would be expanded and voluntary controls of water quality impacts encouraged, which could result in reduced risk of impacts to water quality as the regional population increases. The potential exists for voluntary reductions in logging and building activities, which could result in very minor reductions in sedimentation. If the state Department of Ecology makes the river a priority for establishing minimum instream flows, as would be recommended under this alternative, the risk of impacts would be further reduced.

Alternative 3: Restricting road construction and timber harvest, maintaining a buffer zone of undisturbed vegetation, and limiting residential construction would slightly reduce the potential for erosion and sedimentation. Limited federal financial assistance would be available for shoreline projects, such as fencing, that could result in slight decreases in sedimentation. Federal funding would also be available for water quality and quantity monitoring, providing a means to identify any problems that might arise. Although there are no reasonably foreseeable plans to increase water diversions substantially, federal funding could be available in the future to purchase water for instream flows if the need arises.

Alternative 4: Same as Alternative 3 except that additional restrictions on timber harvest and residential construction would further reduce the risk of erosion and sedimentation by reducing the area along the river which could be cleared.

4.9 Impacts to Anadromous and Resident Fish and Fisheries

Introduction. Through both legislation and court decisions, state and federal agencies have been directed to initiate actions to protect and enhance the Columbia Basin's anadromous fish resources. In addition, the Northwest Power Planning and Conservation Act authorized the development of a plan to "protect, enhance, and mitigate" Columbia Basin anadromous fish. As a result of these directives, agencies and Tribes are jointly preparing a Columbia Basin Systems Plan and a series of sub-basin plans, including one for the Klickitat River.

The Plan, scheduled to be implemented on the Klickitat beginning in 1991, is an intensive salmon and steelhead enhancement plan which is expected to considerably enhance the Klickitat River's fish resources. It will include a new hatchery, habitat protection measures, and possibly increased passage over problematic areas. Given that this plan is certain to be implemented, the provisions of the plan are being considered as a component of current management (Alternative 1). Because this plan provides such extensive fish enhancement and protection and has been endorsed by affected agencies, development of different scenarios for Alternatives 2, 3, and 4 would be redundant and possibly counterproductive. The assumption is being made that efforts to improve habitat for anadromous fish will have similar effects on resident fish.

Alternative 1: Implementation of the Sub-basin Plan will provide extensive protection and enhancement.

Alternative 2: Similar to Alternative 1 except fish would benefit from the reduced risks to water quality and quantity discussed under Alternative 2 in Section 4.8.

Alternative 3: Similar to Alternative 1 except fish would benefit from the reduced risks to water quality and quantity discussed under Alternative 3 in Section 4.8.

Alternative 4: Similar to Alternative 1 except fish would benefit from the reduced risks to water quality and quantity discussed under Alternative 4 in Section 4.8.

4.10 Impacts to Vegetation and Wildlife

Introduction. Impacts to vegetation and wildlife from each of the four proposed management alternatives depend primarily on the effects these alternatives have on recreation and land use along the lower Klickitat. Each alternative also would provide different programs and levels of funding to identify and preserve wildlife habitat, rare plants, and significant plant communities.

Increased recreational use of an area, residential construction, logging, or overgrazing can alter the extent, structure and composition of riparian and upland vegetation, potentially decreasing local populations of wildlife and sensitive plant species. The resulting changes in wildlife distribution and habitat use can be temporary or long-term. Increased recreational use also can increase the risk of wildfires.

Initially, the resource inventories proposed under Alternatives 2, 3, and 4 would provide baseline data on sensitive, threatened, and endangered plants and wildlife. In later years, these alternatives would provide funds for monitoring any populations identified in the baseline surveys.

Alternative 1: About 67 percent of lands in the corridor are privately owned and therefore provide little protection for vegetation and wildlife resources. Reconnaissance-level data exist for rare plants, significant plant communities, and wintering bald eagles. Land uses within 200 feet of the river are restricted under the Shorelines Master Plan. Continuation of current levels of protection is expected to result in moderate impacts to wildlife.

Increases in recreational use of the lower Klickitat River are expected. Impacts to vegetation and wildlife from recreational disturbance are potentially the greatest for this alternative because it offers the least control over recreation. Increased boating, fishing, hunting, and hiking would result in camping, lunch stops, and access at informal, undeveloped sites along the river that could result in disturbance to riparian habitat, wildlife, and rare plants.

Under current and proposed regulations, 150 new houses could be constructed on private lands within the corridor. Development could remove trees that are used by wintering bald eagles. Because bald eagles are particularly sensitive to disturbance while foraging (Stalmaster, 1987), development that results in greater human use could change this species'

distribution and use of the lower Klickitat. However, perch trees are probably not limiting along the Klickitat and greater human use would only be expected during the summer when eagles are not present. Consequently, the impacts of development on eagles is not expected to be significant.

Logging of conifer stands and of oak that may be cut for firewood would decrease the amount of habitat available to species, such as the gray squirrel, that depend on upland forests. These species could experience temporary decreases in population or changes in distribution and habitat use. Logging also could destroy individuals of any rare plants that occur in upland forest habitats.

Impacts of grazing to vegetation and wildlife are expected to be minor. About six ranchers graze about 400 to 500 head of cattle on both sides of the river primarily in the spring. Grazing is allowed by current and proposed county regulations as long as damage to shoreline areas does not occur. The Soil Conservation Service (SCS) will be working with ranchers to develop grazing plans to minimize overgrazing effects. Overgrazing is currently not a problem along most of the lower Klickitat River (except in localized riparian areas) and the SCS plans should minimize its effects on habitat in the future.

Alternative 2: State agencies would conduct more-detailed studies to identify and develop plans for important wildlife habitat, rare plants, and significant plant communities. Land owners would be encouraged to conserve these resources. Access also could be restricted at sensitive locations on state lands. If these voluntary efforts prove successful, impacts to important wildlife habitat and rare plants would be lower than under Alternative 1; if unsuccessful, impacts to resources would be the same as Alternative 1.

The increase in recreational use of the lower Klickitat is expected to be slightly greater than the level described for Alternative 1. However, the increase in management authority and coordination between the state, county, and Yakima Indian Nation provided would result in better control of recreational use, particularly boating and fishing, than currently exists. The identification and enhancement of specific public access sites would help control degradation of riparian habitat and disturbance to wildlife and populations of rare plants. Data collected from state-sponsored studies on these resources would be used to locate public access sites in areas that cause the least amount of disturbance. Consequently, impacts to wildlife and vegetation from recreational disturbance are expected to be less than those anticipated with Alternative 1.

Residential development would be the same as Alternative 1 except that cluster development would be more likely in areas where new construction is concentrated (such as near Pitt). However, significant wildlife and plant habitats would be identified and land owners would be encouraged, through donation of conservation easements and other voluntary

measures, to conserve these resources. Therefore impacts to wildlife and vegetation from development may be slightly less than under Alternative 1.

Landowners would be encouraged to conserve significant plant and wildlife habitats and to voluntarily design planned timber cuts to reduce impacts to river values. Also, agencies would work to develop an oak conservation plan. If successful, these programs could result in lower harvest levels of timber harvest. Consequently, impacts to wildlife and vegetation due to logging could be less than under Alternative 1.

Current grazing practices would continue but more funding and assistance would be available for landowners to make shoreline improvements and conserve significant wildlife and plant habitats. Consequently, impacts of grazing to wildlife and vegetation would be slightly less than under Alternative 1.

Alternative 3: Funding would be available to conduct more-detailed studies to identify important wildlife habitat, rare plants and significant plant communities and develop site-specific management plans. Landowners would be encouraged to conserve these resources and a limited amount of easements or land would be purchased to protect significant wildlife habitat and plant communities and maintain biodiversity.

The increase in recreational use of the lower Klickitat River is expected to be slightly greater than the levels described for Alternatives 1 and 2 because of limited improvements in access. Increased recreation management efforts and monitoring would control this use to limit impacts to vegetation and wildlife. Public access sites and improvements would be located in areas that cause the least amount of disturbance to riparian habitat, wildlife and populations of rare plants. Consequently, impacts to wildlife and vegetation from recreational disturbance are expected to be less than those anticipated under Alternatives 1 and 2.

Potential residential development would be about 40 percent of the amount permitted under Alternatives 1 and 2. Consequently, impacts of residential development to wildlife and vegetation are expected to be less than under Alternatives 1 and 2.

Conservation easements would be purchased on four areas of conifer forest totalling 200 acres. Easements or lands in fee title would be purchased for 200 acres of oak to conserve that species, and for 50 acres to protect sensitive plants. The county would expand the river buffer protected under the SMP to include an additional 100 acres. The oak conservation plan would encourage actions on public and private lands to conserve this resource. Consequently, potential impacts to state rare plants, oak communities, and habitat lost due to logging or development would be less than Alternatives 1 and 2. In some cases, selective cutting may improve forage habitat

for deer by opening the forest canopy, resulting in the growth of understory shrubs, grasses, and forbs.

Grazing along the lower Klickitat would be the same as under Alternative 2, resulting in the continuation of current impacts on riparian habitat but with some shoreline improvements and voluntary conservation of significant plant and wildlife resources. In addition, federal funding would be available to fence cows away from the river and away from areas containing sensitive plants.

Alternative 4: As in Alternative 3, federal funding would be available to conduct more-detailed studies to identify important wildlife habitat, rare plants, and significant plant communities. Land owners would be encouraged to conserve these resources but extensive amounts of easements and land would be purchased to protect vegetation and wildlife and maintain biodiversity.

The increase in recreational use of the lower Klickitat River is expected to be greater than the levels described for Alternatives 1, 2, and 3 because of increased access and publicity about recreational opportunities. However, the management authority, coordination, and funding program established as part of Alternative 3, including increased monitoring and planning, would help to protect significant wildlife habitat and plant communities. Consequently, impacts to wildlife and vegetation from recreational disturbance are expected to be similar to those anticipated under Alternative 3.

The goal of Alternative 4 is resource enhancement. Lands in fee title and scenic easements would be purchased for many of the potential housing sites. Only about 30 new houses would be possible, plus a few in Lyle. Development would generally be dispersed. Consequently, there would be less impact to wildlife and vegetation from development under than under any of the other alternatives.

Full timber rights or fee title would be purchased for 200 acres of conifer and conservation easements or lands in fee title would be purchased for 400 acres of oak stands and 100 acres containing sensitive plant species. The river buffer would be expanded and the oak plan would be implemented as under Alternative 3. Consequently, potential impacts to state rare plants, oak communities, and habitat lost due to logging would be less than under Alternatives 1, 2, and 3.

Grazing along the lower Klickitat river would be the same as under Alternative 3, resulting in similar impacts.

4.11 Impacts to Socioeconomics

Introduction. Several concerns have been raised by area residents, including the effects of increased population levels and more development, increased recreational activity and resulting greater conflicts between recreationists and property owners, increased assessed property values and taxes, reduced

property tax receipts to the county, deterioration of some public services and infrastructure, and possible loss of the rural character of the river canyon.

The river management planning process itself has created impacts in local communities and in the region; people are polarized over the issues and have diverse views on how the lower Klickitat should be managed now that it is a Wild and Scenic River. Regardless of the alternative eventually adopted, some factions are apt to be frustrated and resentful.

Alternatives 1 and 2: The 150 additional houses that could be constructed (see Chapter 3) could result in an increase of 391 people over current population levels, using the 1980 Washington State average of 2.61 people/household. These figures represent the maximum potential development; they are most likely to result from increases in the number of retirement homes and second homes for recreational use. Converting this land from forestry and agricultural uses to residences would affect individual property owners, as described below, but should have no noticeable effect on the overall economy of the county.

The 150 units built on private land could generate \$131,850 in new property taxes annually.¹⁰ This estimate is highly speculative because: (1) all potential units are not likely to be built; (2) it does not take into account added costs to the county for services; (3) it assumes prices have only increased at the rate of inflation when recreational pressures have caused sharp increases in some housing values; and (4) it is based upon the median housing value as well as an average tax rate.

This river reach has not experienced the in-migration of new people that has occurred in the White Salmon River valley, although such growth may eventually occur. The maximum potential increase of 150 housing units is likely to occur slowly and would result in a slow integration of in-migrants into the local social structure. Therefore, only limited impacts to the local social value system are likely to occur from in-migration under any of the alternatives. However, a faster rate of in-migration, coupled with differences in lifestyle between newcomers and locals, could create social conflicts within the local population.

In addition to a potential increase in the number of houses, existing land and housing units might increase significantly in value as the increased demand for housing being felt in the Columbia River Gorge area disperses into the Klickitat River valley. This process has begun somewhat with an estimated 30 percent increase in value for land and improvements occurring during the past four years around Lyle (Shipp, 1989). Increased values would affect landowners by increasing property taxes, but would provide needed tax revenues to the county. Alternative 2 would mitigate the negative effects of increases in land values attributable to river management by providing residents along the river with the

opportunity to decrease their property taxes by donating conservation easements.

Increases in recreational activity and associated slight growth in recreation-oriented business could increase the viability of enterprises (such as bed and breakfasts and commercial fishing and floating) that currently operate on a marginal basis, as well as attract new tourism-related businesses. Increased activity also might result in some increases in related employment. As a result, some new sales tax revenues would be generated by increased recreational activity and purchasing in the area. No overall increases in income levels are likely to result from these alternatives.

Increased recreational activity and in-migration will put further stress on emergency, law enforcement, and road maintenance services. One county sheriff currently services the western portion of the county, and search and rescue services are provided by a combination of paid and volunteer staff. Any additional stress on these limited services could be significant.

Alternative 3: The maximum of 55 new housing units constructed under this alternative would result in an estimated increase of 143 people and generate an estimated \$48,350 annually in tax revenues, using the same methods described above. Timberlands within the corridor are mostly non-commercial, and very little logging has occurred to date. Restrictions on timber harvesting would result in negligible effects on the local economy.

Any increases in land values attributable to river management would be mitigated for residents along the river by payments for conservation easements and/or decreased property tax payments because of donating easements. A estimated total of \$744,250 would be paid to corridor landowners for acquisition of easements or lands in fee title, although this would benefit only people whose lands contained the resources to be protected. Easement donation also could result in lower assessed property values. The reduction in available housing sites would reduce the potential for in-migration and the risk of social conflict. Funding and technical assistance for search and rescue operations would help to mitigate the effects of increased recreational use.

10. To assess the potential county property tax revenues that might be generated from the addition of the above new housing units, the 1980 median housing value of \$39,500 for Klickitat County was used as a baseline number. This figure was inflated to 1988 dollars, using average U.S. City Consumer Price Index inflators (43.57 percent), to obtain a median housing value of \$56,700. Assuming that the property would be assessed county property taxes at \$15.50/\$1,000 assessed value (the area average of the \$14.00 to \$17.00 assessed per \$1,000 of value), about \$879 in property taxes would be paid annually on each unit.

Alternative 4: Similar to Alternative 3 except the maximum of about 35 new houses could increase the population in the river corridor by a maximum of about 91 people and tax revenues by \$30,760 per year. As was the case under Alternative 3, only slight effects on the timber industry should result from this alternative. Payments to landowners for easements and lands acquired in fee title would be greater than under Alternative 3 because of increased resource protection measures, totalling an estimated \$2,124,000. The substantial reduction in available housing sites would reduce the potential for in-migration and resulting social conflict. Funding and technical assistance for search and rescue operations would help to mitigate the effects of increased recreational use.

4.12 Adverse Environmental Effects That Cannot Be Avoided

None of the alternatives contains management directions that would directly create unavoidable adverse environmental effects. It is conceivable that the lack of additional actions under Alternative 1 could lead to adverse effects on river corridor resources at some time in the future, but this would depend on the nature of the threat and the ability of existing resource protection mechanisms to address it. For example, construction of the maximum number of possible houses in the river corridor would foreclose some resource protection options as well as increase the potential for water pollution and impacts to vegetation and wildlife. Increased conflicts between landowners and recreation visitors also could result.

4.13 Local Short-Term Uses of the Environment and the Maintenance and Enhancement of Long-Term Productivity

All of the alternatives would preclude hydropower development and other water projects that could adversely affect river values. However, this prohibition stems from the act designating the lower Klickitat as a National Wild and Scenic River, not from the management actions under any alternative. None of the alternatives contain specific actions that require a substantial loss of short-term use in order to achieve long-term protection. Under Alternative 1, the reasonably foreseeable short-term uses would be unlikely to affect long-term productivity.

4.14 Irreversible and Irretrievable Commitments of Resources

Because the alternatives deal with conservation of corridor resources rather than resource development activities, no alternative calls for any irreversible or irretrievable commitments of resources. The absence of action under Alternative 1 could lead to impacts mentioned in Section 4.12, which could be irreversible depending on the nature of the threat.

4.15 Cumulative Impacts

Regulations implementing NEPA define cumulative impacts as:

The impact on the environment which results from the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

For this project, the issue is whether any of the management plan directions contain measures which could contribute to cumulative impacts, which could be either adverse or beneficial. Following is a discussion of the most likely cumulative impacts that are relevant to the key study issues.

1. The beneficial impacts to fish habitat (resulting from the decreased risk of water pollution and withdrawal) under Alternatives 3 and 4 would add incrementally to the beneficial impacts of sub-basin planning. Enhancement of anadromous fish populations and habitat will continue to be a priority in the Columbia River system and Pacific Northwest for the reasonably foreseeable future.

2. The reduced timber harvest possible in the river corridor under Alternatives 3 and 4, although slight relative to the amount and quality of timber harvested in the county, would contribute incrementally to reasonably foreseeable reductions in timber harvest resulting from protection of northern spotted owl habitat and other limitations on harvest. Although spotted owl habitat does not exist in the lower Klickitat River corridor, any impacts to timber harvest and the potential for loss of income or jobs should be considered in a broader context.

3. The increased regulation of management practices on private lands in the river corridor that would accompany Alternative 3 would contribute incrementally to what many local residents perceive as a loss of private property rights. Other sources of impact include the The Columbia River Gorge National Scenic Area regulations, which affect the lower 1.5 miles of the lower Klickitat river corridor as well as lands upstream and downstream along the Columbia.

4.16 Impacts of the Alternatives on Key Study Issues

This section summarizes how each alternative addresses each of the seven key suitability issues. As required by regulations implementing NEPA (40 CFR Parts 1500-1508 as of July 1, 1986), the table presents the environmental impacts of the alternatives in comparative form, providing a clear basis for choice among options by the decisionmaker and the public. This is the same table that was provided in the Summary.

Impacts of the Alternatives on Key Study Issues

Key Issues:	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Protection of Instream Resources	<p>Free-flowing Character: Wild and Scenic Rivers Act prohibits federal involvement in dams; other federal projects prohibited if they directly and adversely affect river values.</p>	<p>Free-flowing Character: Same as Alt. 1 except state-level dam protection would be added for the entire river between Summit Creek and the mouth.</p>	<p>Free-flowing Character: Same as Alt. 1.</p>	<p>Free-flowing Character: Same as Alt. 1.</p>
	<p>Water Quality and Quantity: Possible increases in sedimentation from construction, logging and other activities.</p>	<p>Water Quality and Quantity: Same as Alt. 1 except voluntary efforts could result in slightly less erosion and sedimentation.</p>	<p>Water Quality and Quantity: Existing conditions would be maintained or enhanced through controls on construction and logging.</p>	<p>Water Quality and Quantity: Same as Alt. 3.</p>
	<p>Fish: Northwest Power Planning Council System Plan will enhance anadromous fishery, including a new hatchery; anticipated corridor activities would have little effect on fish habitat.</p>	<p>Fish: Same as Alt. 1, except fish would benefit from reduced risk of sedimentation</p>	<p>Fish: Same as Alt. 2.</p>	<p>Fish: Same as Alt. 2.</p>

Key Issues:	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Protection of Upland Resources	<p>Scenery: Partially protected by steep terrain, county zoning, and some public land ownership. Potential residential development (and, to a lesser extent, logging) could change the character of the corridor. CRGNSA proposed zoning protects visual quality in the lower 1.5 miles (same for all Alts.)</p> <p>Vegetation and Wildlife: Potential for increased impacts from residential construction, grazing and logging. Increased recreation use could disrupt wildlife.</p>	<p>Scenery: Successful voluntary programs would reduce visual impacts from construction and logging; local support could extend this protection to rest of watershed. Aesthetic improvements could occur and viewing opportunities may be improved. The visual quality objective of partial retention may not be met, meaning that new development may not blend in with the existing landscape.</p> <p>Vegetation and Wildlife: Successful voluntary programs could reduce impacts of construction, grazing and logging, and maintain oak stands. Increased recreation management actions would mitigate effects of increased recreational use.</p>	<p>Scenery: Visual quality and the character of the river corridor would be maintained. Aesthetic improvements would occur and viewing opportunities would be improved.</p> <p>Vegetation and Wildlife: The most ecologically significant oak stands would be preserved by purchasing 200 acres; county implementation of an oak conservation plan would maintain other significant stands. Purchase of up to 50 acres of lands in fee title would preserve sensitive plant species. Expansion of the river buffer would increase streamside habitat available for wildlife. County requirements for vegetative retention would reduce potential impacts of residential construction. Increased recreation management actions would mitigate effects of increased recreational use.</p>	<p>Scenery: Visual quality and the natural character of the river corridor would be enhanced. Additional aesthetic improvements would occur and viewing opportunities would be greatly improved.</p> <p>Vegetation and Wildlife: Similar to Alt. 3 except potential impacts would be further reduced by purchase of 400 acres of oak and up to 100 acres would be of sensitive plant species. Expansion of the river buffer would increase streamside habitat available for wildlife. County requirements for vegetative retention would reduce potential impacts of residential construction. Increased recreation management actions would mitigate effects of increased recreational use.</p>

Key Issues:	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Native American Concerns	<p>Dip-net Fishing Site: Legal right to access for fishing and other traditional uses. Safety of dip-net fishermen is a concern and numerous drownings have occurred</p>	<p>Dip-net Fishing Site: Legal rights to access as in Alt. 1. Implementation of site plan would protect site over the long term. A program to decrease accidents and drownings of dip-net fishermen would be implemented. Boating prohibited in the gorge to avoid impacts to dip-net fishing.</p>	<p>Dip-net Fishing Site: Legal rights to access as in Alt. 1. Implementation of site plan would protect site over the long term. A program to decrease accidents and drownings of dip-net fishermen would be implemented, and technical assistance and funding provided to the Native American search-and-rescue team. Boating prohibited in the gorge to avoid impacts to dip-net fishing. Public interpretation would minimize impacts to dip-net fishing and has the potential to reduce impacts from current levels.</p>	<p>Dip-net Fishing Site: Access, site plan, and safety measures are same as under Alt. 3. Boating through the gorge would be allowed only by permit, coordinated with the Yakima Indian Nation to avoid impacts to dip-net fishing.</p>
	<p>Archaeological Resources: State law protects burial sites; archaeological sites may be inadvertently affected by development.</p>	<p>Archaeological Resources: Same as Alt. 1, except recreation sites would be surveyed prior to improvement.</p>	<p>Archaeological Resources: Inventory and subsequent actions would protect key sites.</p>	<p>Archaeological Resources: Same as Alt. 3.</p>
	<p>Management Role: Existing role in management of fish and wildlife resources.</p>	<p>Management Role: Same as Alt. 1 plus Yakima Indian Nation would participate in State Scenic River management team.</p>	<p>Management Role: Same as Alt. 1 plus Yakima Indian Nation would serve as partner on Wild and Scenic River Management Committee.</p>	<p>Management Role: Yakima Indian Nation would serve on Advisory Committee rather than on Management Committee.</p>

Key Issues:		Alternative 1	Alternative 2	Alternative 3	Alternative 4
Provision of Recreation and Public Access		<p>Recreation use levels: Increased use levels due to greater recreation visitation in the Columbia Gorge, possible restrictions on nearby rivers, and designation is likely to result in environmental damage to limited recreation sites, crowding, and conflicts among recreationists. Increased incidents of trespass, vandalism, wildfire and other problems for landowners may occur.</p> <p>Access: Long-term access to several traditional river access points on private lands is not guaranteed.</p> <p>Management and Monitoring: Existing recreation opportunities could be degraded over time by increased use, corridor development, and loss of access. Management is reactive, with no coordination among agencies or an agreed-on river management plan. One of the river's most outstanding features, the dip-net fishery, is not interpreted for the public. No monitoring program means that use trends and patterns can not be quantitatively measured and documented.</p>	<p>Recreation use levels: Use levels may increase slightly higher than under Alt. 1 as a combined result of additional state designation and limited facility improvements. The use increase anticipated due to these factors is considered slight when added to the more significant variables listed under Alt. 1.</p> <p>Access: Public use of currently-used river access sites on private lands could be provided through agreements, easements, or acquisition.</p> <p>Management and Monitoring: Existing opportunities would be maintained to the extent funding and technical assistance were available. A monitoring program would help to analyze use levels and patterns, and detect landscape damage, crowding, or use conflicts before they become substantial. Coordinated recreation planning and management could reduce physical and social impacts by anticipating problems, planning for and directing recreation use, and providing appropriate levels of information, facilities, and access.</p>	<p>Recreation use levels: Use would probably increase similarly to levels under Alt. 2 because of additional facilities and access improvements at least one site (Three Pines, a privately-owned site at RM 5.5).</p> <p>Access: Purchase of easements or lands for access at the Three pines site would guarantee access to this and other important locations.</p> <p>Management and Monitoring: Existing opportunities would be guaranteed to continue over the long term. A comprehensive monitoring program and coordinated management effort would prevent unacceptable levels of impacts to the landscape and address crowding and conflicts before problems arise. A full-time seasonal river ranger would provide many benefits for on the ground monitoring, management and enforcement.</p>	<p>Recreation Use levels: Use levels would be anticipated to increase moderately over those in Alt. 1 due to substantial improvements to existing recreation sites, expansion of recreational access, and increased visitor information and signing.</p> <p>Access: Alt. 3 plus overnight camping facilities at the WDW Dillacort recreation site (RM 5.1) would be expanded and improved. More roadside parking and pull-offs would be provided, trails to or along the river could be developed in the future.</p> <p>Management and Monitoring: Existing opportunities would be guaranteed to continue over the long term. These and additional opportunities would be enhanced by greater corridor protection, interpretation, and access. People would have the opportunity to learn more about the dip-net fishery. Other impacts similar to those under Alt. 3.</p>

Key Issues:	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Effects on Private Property and the Local Economy	<p>Private Property: 67% of the corridor (3,275 acres) is privately owned. Proposed Shorelines Master Plan revision and CRGNSA zoning would increase regulations. A theoretical maximum of about 155 building sites are available, but about 85 sites are not likely to be built on because they are on steep slopes or in the floodplain.</p> <p>Local Economy: Grazing, home construction, tourism and logging in the lower Klickitat corridor make minor contributions to the local economy. There are about 2,500 acres (50 mmhf) of harvestable timber and 1,500 AUM grazing. Maximum possible development of houses in the corridor could increase county property tax receipts by \$131,850 (offset by the need for increased services) and increase corridor population by 391 people.</p>	<p>Private Property: Similar to Alt. 1; management would emphasize voluntary resource protection measures, not additional regulation of private lands, resulting in little or no impacts to peoples' ability to control their land. Landowners who donated conservation easements could pay less in property taxes, and resale value could be affected.</p> <p>Local Economy: Similar to Alt. 1 with slight increases in tourism revenues. Any decreases in timber harvest or agriculture would be voluntary.</p>	<p>Private Property: The opportunity to build on about 90 sites would be foreclosed to meet river management objectives (landowners would be compensated for eight sites; 60 excessively steep sites and 25 in the floodplain, locations not likely to be built on, would be regulated by zoning). Timber harvest would be regulated as described below and under Upland Resources. Strengthened zoning and SMP provisions, agreements, and easements would regulate visibility of houses and trailers. Landowners would be compensated for easements or land purchased but not for activities foregone due to increased county regulation. Payments to landowners would total an estimated \$744,250 for easements and land.</p> <p>Local Economy: Easements regulating timber harvest to meet visual quality objectives would reduce the amount of harvestable timber by 2 mmhf (out of 50 mmhf in corridor); no reduction in grazing. Slight additional increases in tourism revenues. Maximum potential increase in county property tax receipts of \$48,350 (offset by need for increased services) and potential population increase of 143 people.</p>	<p>Private Property: The opportunity to build on about 110 sites would be foreclosed to meet river management objectives; landowners would be compensated for 50 of these parcels (60 are excessively steep and so would be restricted by strengthened zoning). Timber harvest would be regulated as described below and under Upland Resources. Screening and placement of new houses and trailers would be regulated and compensated for by easement acquisition (or voluntary agreements). Payments to landowners would total an estimated \$2,124,000 for easements and land.</p> <p>Local Economy: Purchase of timber to conserve resource values would reduce the amount available for harvest by 4 mmhf (out of 50 mmhf in corridor). No reduction in grazing. Moderate additional increases in tourism revenues. Maximum potential increase in county property tax receipts of \$30,760 (offset by need for increased services) and potential population increase of 91 people.</p>

Key Issues:	Alternative 1	Alternative 2	Alternative 3	Alternative 4
<p>County and State Support</p>	<p>County: Little change from routine but added public controversy and administrative pressure due to having a Wild and Scenic river in the county.</p> <p>State: Little change from routine in administration of state regulations or in the management of state lands, which comprise 22% of the river corridor; Wild and Scenic designation is compatible with state salmon restoration efforts.</p>	<p>County: County responsibilities would increase, mitigated by state provision of staff and state and federal funding for management activities. County would have an active role by serving on the Scenic River Council.</p> <p>State: The river would be added to the state Scenic River system, increasing costs and administrative responsibilities. Increased state role in river conservation as opposed to Alt. 1. Benefits of this alternative would apply to all portions of river between the mouth and Summit Creek.</p>	<p>County: This alternative would call for the county to strengthen existing zoning and shorelines regulations, increasing its costs and management responsibilities considerably. The changes called for would be controversial. These impacts would be partially mitigated by federal funding to pay for the increased duties and the availability of Forest Service river rangers to help implement the plan. The county would have an critical role in river management, serving as a partner on the Management Committee.</p> <p>State: The state would realize the benefits of increased resource protection but without the greatly expanded duties or lead management role called for under Alt. 2. State agencies would be asked to perform many of the same duties as under Alt. 2, partially mitigated by federal funding and staff assistance. The State would serve on as a partner on the Management Committee.</p>	<p>County: This alternative's principal way of meeting resource protection objectives is federal purchase of easements and/or lands in fee title at fair market value. This is compatible with the county's position that people should be compensated if increased resource protection efforts reduce peoples' private property rights. The Forest Service would have the lead management role; the county's existing management responsibilities would continue. The county would serve on the formal Citizen's Advisory Committee, rather being a partner in implementation of the management plan.</p> <p>State: Similar to Alt. 3 but the state would serve on the formal Citizen's Advisory Committee, rather being a partner in implementation of the existing management responsibilities would continue, but would not be increased as much as under Alt. 2 or 3.</p>

Key Issues:	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Cost and Implementation	<p>Cost: For the most part, the cost of existing management activities in the river corridor are funded out of general county and state budgets and so are difficult to estimate. Responsibilities would not increase significantly under this alternative.</p> <p>Implementation: It is unlikely that this could be chosen as a preferred alternative because it does not appear to insure adequate long-term protection of river corridor resources. This alternative may be more viable if some of the actions under other alternatives were added. At a minimum, a central coordinating mechanism would be needed.</p>	<p>Cost: One-time acquisition and facility improvement cost of \$331,000; annual operation cost of \$70,000.</p> <p>Implementation: State Scenic River designation would require an act of the state legislature. Legislation adding rivers to the Washington state system did not pass in the last session, pointing to the uncertainty associated with future state designation. Success in meeting some resource protection goals would depend on the success of efforts to encourage and assist landowners with voluntarily conservation of corridor resources. Success also would depend on the effectiveness of interagency cooperation and coordination. The state lead in management would be coupled with a monitoring program designed to measure progress toward achieving management goals. If a given action was not working, the Forest Service could use its funding and management authorities. If this were widely used, the resulting impacts may be similar to those described under Alt. 4.</p>	<p>Cost: One-time acquisition, survey, plan development, and facility improvement cost of \$2,649,000; annual operation cost of \$120,000.</p> <p>Implementation: Federal acquisition provisions would require congressional appropriations. Management would be simplified due to strong federal lead role. Advisory committee would provide opportunities for public input.</p>	



List of Preparers & Draft EIS Mailing List



The lower 1.5 miles of the Klickitat lie within the Columbia River Gorge National Scenic Area (view up the Klickitat from the Columbia River).

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